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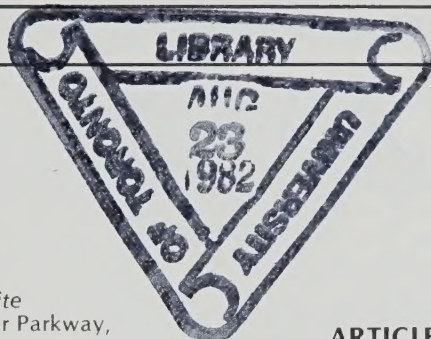


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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

SPRING 1977 PRINTEMPS

VOLUME 11, NO. 1



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THE CANADIAN DENTAL HYGIENIST is the official journal
of the Canadian Dental Hygienists' Association and is published
quarterly.

All journal communications should be directed to the Editor,
except subscription and advertising matters which should be
addressed to the respective staff members.

Subscription rates for non-members are: \$8 per year in
Canada and \$10 per year foreign.

The opinions expressed in editorials or articles are those of
the authors and do not necessarily represent the views of the
Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle
de l'Association des hygiénistes dentaires du Canada et est
publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être
adressées au Rédacteur en chef, à part les abonnements et tout
ce qui concerne la publicité, ce qui, de leur côté, devraient être
adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les
suivants: \$8 par année au Canada et \$10 par année en pays
étranger.

Les opinions exprimées dans les éditoriaux ou dans les
articles celles des auteurs et ne représentent pas nécessairement
les points de vue de l'Association, de l'Editeur ou du
Rédacteur.

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PROFESSIONAL COMPETENCE DOES NOT CARRY A LIFETIME GUARANTEE

When you seek the services of a lawyer, doctor or other health professional, do you ever question whether he or she is competent? Or do you assume that any practising professional must be competent and they would not be permitted to provide services to the public? Does a professional who demonstrated competency at the time of registration and licensure remain so for the rest of his career? Definitely not, according to educational institutions offering professional programs.

Today, there is a general consensus of opinion that competency declines or is seriously hampered if the professional does not keep learning throughout the duration of his career. That is, professional competence does not come with a lifetime guarantee. One of the main reasons for the need for continuing education or professional development is the knowledge explosion.

It is estimated that man's knowledge doubled in the first half of the 20th century, and that it will continue to double every five years or less. This fantastic growth means that the education of an individual, qualified and licensed to practice in 1977, could be obsolete before he reaches the midpoint of his professional career. It has been said that those in dentistry must "run to stand still" in an effort to keep the delivery of dental services in tune with current information and trends.

A further reason for professional development is more subtle and complex. In the past, most professional and licensing bodies concentrated their efforts on protecting the public from the unscrupulous or unethical practitioner. Now the need to protect the public from the professional who has not maintained competency is being recognized and many solutions are being considered. A basic difficulty in coming to grips with the problem lies in how to

determine an adequate standard of competence. It is generally accepted that competence, while it embraces an individual's knowledge and skills, also includes judgement, attitude, and the ability to apply appropriate principles to a practical situation.

Many professional bodies recognize their responsibility to the public and at the same time acknowledge the inadequacies of present methods to ensure competence. In an attempt to find answers to this complex problem, they are turning to a system of required or mandatory professional development to guarantee a minimum of refresher training for all members.

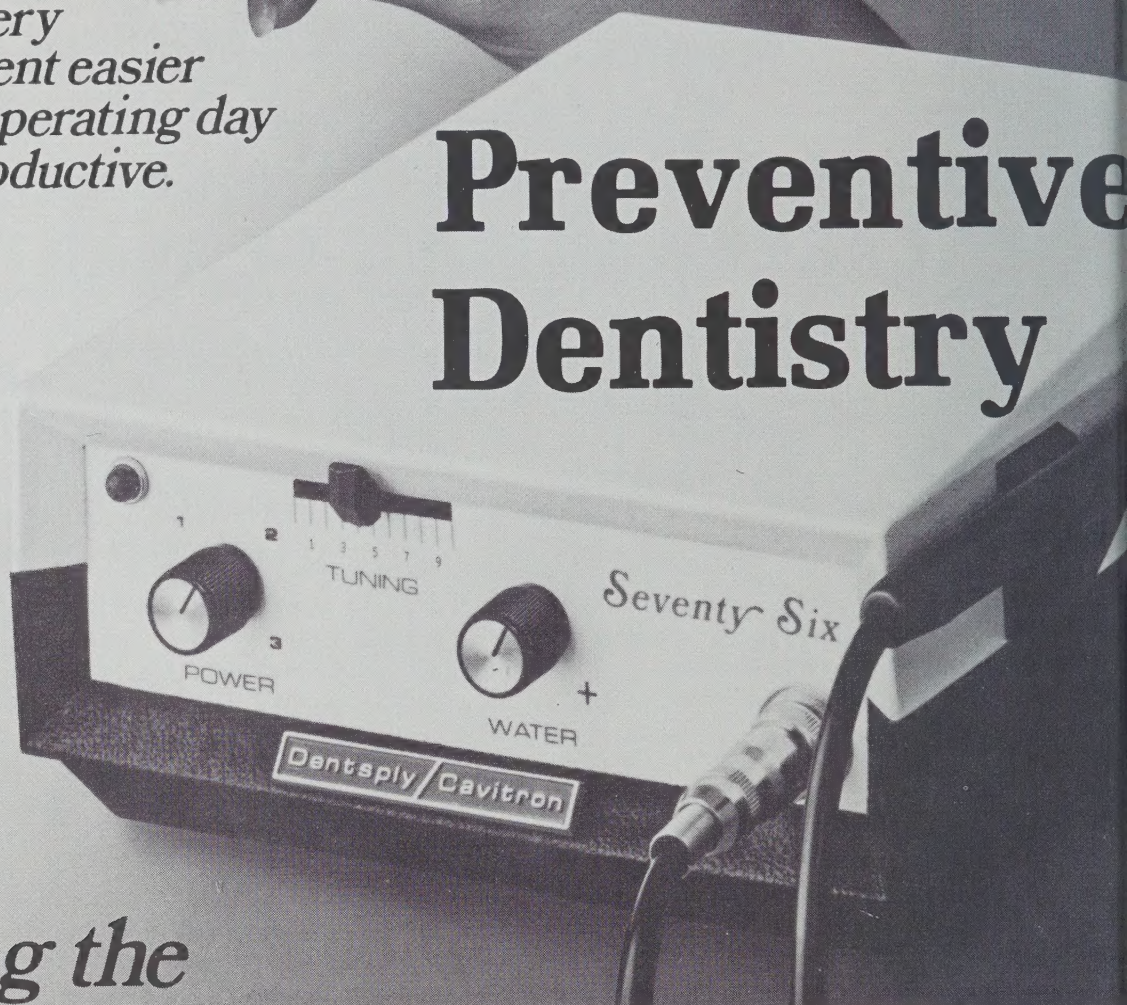
Regardless of the methods imposed by the professional organizations and licensing bodies, there is still the difficulty of ensuring that the individual practitioner will practise his profession with competence and excellence. That is, despite participation in mandatory programs, will he continue to practise as he has always done, or will he abide by the standards which are continuously changing?

The trend to obligatory professional development is clearly an emerging one. It is also a significant one. It shows that the professional bodies are prepared to accept some of the responsibility for the continued competency of their members, and in doing so, are acting to protect the public. Many are accepting the premise that continued competency is no longer a matter solely between a professional and his conscience - that professional competence does not carry a lifetime guarantee. However, if history can teach us anything, it is that social progress results not from changes in man's laws, but from changes in man's hearts.

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EARLIER ONSET OF ORAL CANCER IN WOMEN WHO SMOKE, DRINK

Researchers at the Department of Biostatistics, Roswell Park Memorial Institute, Buffalo, have reported that women who drink and smoke heavily are likely to develop cancer of the oral cavity and tongue at a younger age.

The report of Irwin J.D. Bross, Ph.D., and Jeanne Coombs, M.S., was presented at the Toronto meeting of the American Association for Cancer Research.

The report was based on a comparison of women with and without oral cancer who were examined at Roswell Park, a New York cancer research center, between 1957 and 1966. One hundred forty-five patients with cancer were included in the sample, 80 of whom had tumors of the oral cavity and 65 with cancer of the tongue.

After a statistical analysis of their sample, the researchers concluded that exposure to both alcohol and tobacco can lead to onset of oral cancer 15 or more years earlier than this occurs in women who abstain from both. It is of interest that exposure only to alcohol does not provide any evident reduction in the age at onset, while exposure only to cigarettes produces about a five-year shift."

Fifty-three (36.5%) of the patients with cancer neither drank nor smoked, and in 43 of them the onset of disease took place after the 65th birthday. Eighteen women (12.4%) were heavy smokers who smoked, and all of them had been diagnosed as having cancer before reaching 65. Women who smoked, regardless of whether they drank, tended to have cancer at younger ages.

A comparison of the patients who have cancer with a cohort of 1,973 women who were examined at Roswell Park during the same period for various non-neoplastic diseases showed that the controls included relatively more non-smokers and non-drinkers (51.8%) and far fewer heavy smokers (3.0%).

Heavy drinkers, for the purpose of the study, were defined as women whose monthly alcohol consumption consisted of at least 30 bottles of beer, 10 glasses of wine, or 30 drinks of hard liquor. Smokers were not divided into categories, since most of them smoked the package of cigarettes or less a day. The investigators term their report unequivocal evidence in humans that when two carcinogens act on the same target cells, the effect seems to be to accelerate the carcinogenic process."

They estimate that women between the ages of 40 and 64 years who smoke and drink more than 30 ml of alcohol a day are at 18 times greater risk of mouth or tongue cancer than women who do not drink and smoke. The excess risk factor for women who smoke is about 5.0, regardless of their drinking habits.

TIMER FAILURES IN DENTAL X-RAY UNITS

The Health Protection Branch has recently become aware of timer failures that have occurred in dental X-ray units marketed in Canada. The failure results in such units continuing to emit X-rays without automatically turning off. Such a failure violates the standards of performance specified in the Radiation Emitting Devices Regulations, and may cause a serious overexposure to the patient, particularly if the operator does not realize that a timer failure has occurred and does not release the exposure switch.

It is suggested that appropriate caution should be exercised by all users of dental X-ray equipment. We would appreciate receiving any additional concerns you may have on such devices. Comments should be submitted to the Director, Radiation Protection Bureau, Environmental Health Directorate, Health Protection Branch, Department of National Health and Welfare, Ottawa, Ontario, K1A 1C1.

WASHINGTON U STARTS HYGIENIST PATHOLOGY EDUCATION PROGRAM

A new program in pathology education for licensed dental hygienists, thought to be the first of its kind in the country, is being established at the Washington University School of Dental Medicine.

The two-year program, which will begin in September 1977, is designed to train dental hygienists to teach pathology and diagnosis in dental hygiene schools. Completion of the program will result in a master's degree in pathology education.

Further information and application forms may be obtained from Dr. Peter A. Pullon, chairman of the dental school's pathology department, 4559 Scott Ave., St. Louis, 63110.

DEFECTUOSITE DE LA MINUTERIE DANS LE MATERIAL DENTAIRE A RAYONS X

La Direction générale de la protection de la santé a découvert récemment des défauts de minuterie qui surviennent dans les appareils dentaires à rayons X vendus au Canada. Lorsque cette défectuosité est présente, les appareils continuent d'émettre des rayons X sans que le réglage ne l'arrête automatiquement. Pareille défectuosité constitue une infraction aux normes de fonctionnement précisées dans le Règlement sur les dispositifs émettant des radiations, et peut causer une exposition trop prolongée pour le patient surtout si l'opérateur ne se rend pas compte que la minuterie fait défaut et ne relâche pas l'interrupteur d'exposition.

On recommande à tous les usagers d'appareils dentaires à rayons X de prendre les précautions qui s'imposent. Nous vous saurions gré de bien vouloir nous faire parvenir tous renseignements supplémentaires que vous pourriez avoir sur ce genre d'appareil. Vos observations doivent être adressées au directeur, Bureau de la radioprotection, Direction de l'hygiène du milieu, Direction générale de la protection de la santé, ministère de la Santé nationale et de Bien-être social, Ottawa (Ontario), K1A 1C1.

VISITING EUROPE THIS SUMMER?

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SELF-ASSESSMENT TEST

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

Following is the first of a series of self-assessment tests to be published in the 1977 issues of THE CANADIAN DENTAL HYGIENIST. The questions have been taken from Shailer Peterson's COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS and incorporate three areas of dental hygiene practice: performing oral inspection, exposing and processing radiographs, and providing other diagnostic aids.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 10 for the correct answers.

1. During an extraoral examination when palpating the entire length of the anterior and posterior borders of the sternocleidomastoid muscle, the hygienist would be examining for

- a. enlarged lymph nodes.
- b. swellings of the submandibular gland.
- c. nodes on the hyoid bone and thyroid cartilage.
- d. asymmetry of the mandible.

2. The clinical examination methods used in the examination of the tongue are

- a. probing and transillumination.
- b. observation and palpation.
- c. radiographic and exploration.
- d. exploration and palpation.

3. The gingival "col"

- a. is a defensive mechanism of the gingiva.
- b. occurs only in the deciduous dentition.
- c. is absent when interproximal tooth contact is not present.
- d. occurs only in the permanent dentition.

4. Destruction of the gingival and periodontal attachment apparatus and apical proliferation of the epithelial attachment results in

- a. a shallow gingival sulcus.
- b. a false or pseudoperiodontal pocket.
- c. gingival hyperplasia.
- d. a true periodontal pocket.

5. Fogging of a dental x-ray film may be caused by
 - a. using outdated film or a light leak in the darkroom, or both.
 - b. using outdated film and overexposing the film.
 - c. underexposing a film and then overdeveloping to compensate.
 - d. using hot water in developing to compensate for a darkroom light leak.
6. If a patient reports having had two chest x-ray films during the past 12 months, a dental full-mouth series should be
 - a. postponed for another 6 months.
 - b. taken after consultation with the patient's physician.
 - c. taken without undue concern for patient overexposure.
 - d. postponed for another 12 months.
7. The primary function of using leaded aprons on patients during exposure to dental x-ray procedures is to
 - a. prevent scattered radiation to the operator.
 - b. absorb unwanted radiation in the primary beam.
 - c. absorb scattered radiation to the patient.
 - d. allow the "softer" x-rays to reach the patient.
8. Bone resorption that is not parallel to the cemento-enamel junctions on a bitewing radiograph is termed
 - a. pathologic resorption.
 - b. vertical resorption.
 - c. horizontal resorption.
 - d. angular resorption.
9. What is considered a normal blood pressure in an adult?
 - a. 100/50 mm. Hg
 - b. 100/80 mm. Hg
 - c. 120/80 mm. Hg
 - d. 150/90 mm. Hg
10. The patient has a severe, acute dental infection with fever. What change in pulse rate would be expected?
 - a. Increase by 10 beats per minute.
 - b. Increase by 20 beats per minute.
 - c. Decrease by 10 beats per minute.
 - d. Decrease by 20 beats per minute.

The 3rd Edition of COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS, edited by Shailer Peterson, provides an all-inclusive and function-oriented review of dental hygiene and is a worthwhile reference for all graduates. In addition to providing information on most subject areas, it includes many multiple choice questions which may be used to test comprehension and knowledge. This text is available from the C.V. Mosby Company, 86 Northline Road, Toronto, Ontario M4B 3E5.

JOAN S. VORIS, Chairman
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DENTAL MANAGEMENT OF THE MEDICALLY HANDICAPPED

WENDY BOYCE, R.D.H.

Wendy Boyce is a dental hygienist at The Hospital for Sick Children in Toronto, Ontario.

Maintenance of good dental health for medically handicapped persons is important for their mental and physical well-being. Because of the difficulty in performing restorative dentistry and the risks involved in oral surgery procedures, the medically handicapped should enjoy all the benefits of preventive and prophylactic dental care. It is in this area that the dental hygienist can play a vital role.

Dental Management

The medically handicapped person represents a challenge for the dentist and dental hygienist to effectively and safely treat. However, preventive procedures such as scaling, curettage and prophylaxis can be performed safely and without complication provided that precautions are taken to minimize tissue trauma, to observe maximal sterility, and to arrest hemorrhage before the patient leaves the office.

To minimize tension and anxiety that may worsen a medical condition, the hygienist should explain to the patient details of the procedure, sensations to be experienced, the time needed for the work, and the patient's role in the treatment. The hygienist should stress that poor oral hygiene can aggravate the medical problem. Patients, fearful of initiating bleeding when brushing, should be reassured that minimal gingival hemorrhage is not harmful. Instructions in oral hygiene should also be explained to those accompanying him. If the patient resides in an area where the water is not fluoridated, home fluoride treatment should be prescribed.

During counselling, the hygienist must be aware of the patient's dietary limitations: the diet should not contradict the one prescribed by the physician. Poor eating and oral hygiene habits may result from the parent's over-protection and over-indulgence of the child because of the anxiety about his illness.

Any dental hygiene treatment may precipitate a major complication if bacteria enters the blood of a patient with a debilitating illness such as cardiac or kidney disease. Bacteremia has been directly related to the degree of trauma during scaling and the degree of periodontitis.⁽¹⁾ Therefore, it is necessary to allow more time for each procedure due to the care that must be exercised during application of clinical techniques. In addition, by educating the medically handicapped to the advantages of good oral health, the hygienist can help to eliminate one major area of concern to this patient.

Cardiac Conditions

The hygienist must be aware of the medical history of patients with heart disease: current medication, previous or planned heart surgery, and a prosthetic valve or pacemaker impose restrictions on treatment. In the patient with a heart malfunction (e.g., congenital heart disease [CHD], rheumatic fever), bacteremia may precipitate endocarditis with resulting damage to the valves.^(2,3) Minimizing tissue trauma reduces the possibility of bacteremia. Pretreatment with antibiotics may be necessary to reduce possibility or severity of infection when oral hygiene is poor and gingival hemorrhage is likely. If the patient cannot be relied upon to take the medication before an appointment, antibiotics should be given in the office.⁽⁴⁾ If the patient is given penicillin, one should wait at least 30 minutes after an intramuscular injection and 45 minutes after oral consumption before starting work. Treatment can proceed without medication if the patient's oral hygiene is fairly good, the disease is not active, or surgery has not been performed recently.

Those with cyanotic CHD may become fatigued and breathless due to the stress of hygiene treatment. They may also be fearful of the possible effects of dental treatment on their heart. These patients should be encouraged to relax.

Certain precautions may be necessary when the



Fig. 1: *Gingival inflammation in a leukemic patient.*

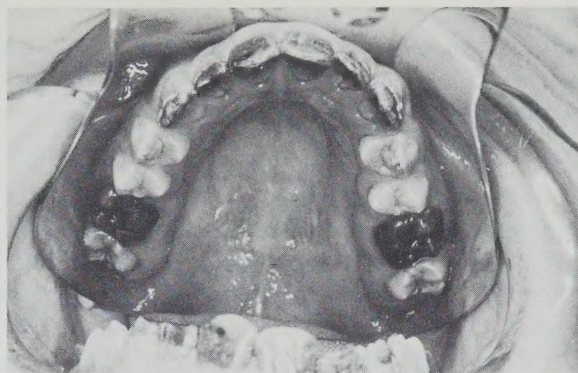


Fig. 2: *Intrinsic staining of the permanent teeth due to treatment with tetracycline during the formation of permanent dentition.*

hygienist treats patients with a pacemaker because power instruments such as slow belt-driven handpieces and ultraviolet curing units, may shut it off or disturb its rhythm(5). The hygienist should watch for any abnormalities in the patient's behaviour and be prepared to turn off the power source.

Blood Dyscrasias

Before treating a new patient with a severe blood dyscrasia, the hygienist should consult with the patient's physician. In certain cases, blood testing may be necessary before each appointment. Extreme care may be required to minimize hemorrhage.

All patients with blood dyscrasias should be instructed in proper care of the gums; it should be stressed that use of a brush with soft bristles will minimize trauma and that any bleeding is likely to be superficial and should stop without event. Discussion of diet is helpful, with emphasis on the benefits of fibrous and crusty foods to toughen the gingiva.

Hemophilia type A and B are deficiencies of the blood-clotting factors which result in prolonged coagulation time and tendency to bleed into tissues and joints. Rubber cup prophylaxis can be performed on those mildly affected without premedication. However, major scaling should be postponed until the patient receives cryoprecipitate or plasma for other dental work. Undue hemorrhage resulting from scaling can be stopped by applying direct pressure to the gums.

Anemia results from a reduction of red blood cells, hemoglobin or iron lowering resistance to infection. Iron supplements in the liquid form produce black stains on the teeth and tongue. Removal of the stain provides an incentive to maintain good oral hygiene that can reduce infection.

Leukemia is the abnormal proliferation of white blood cells. Proper oral care is particularly important because when the disease is active the gingiva reacts severely to local irritants, making eating and brushing painful for the patient (Figure 1). Deposits must be removed while the patient is in remission, and he should be instructed on gentle brushing and the use of mouthwash to combat odor and taste from necrotic tissue.

Diabetes

Diabetes is the result of a lack of production of insulin. It is important to contact the patient's physician to determine the present state of control of the diabetes and to establish any related precautions.

Local irritants in the mouth of a diabetic may cause severe tissue damage. The hygienist should, therefore, observe sterile techniques and avoid undue trauma to tissues.

The hygienist should be sensitive to the patient's emotional state because stress increases insulin requirements. If the patient has missed or postponed a meal after an insulin injection, there is risk of hypoglycemia. If tremor, pallor and sweating are noted, two teaspoons of sugar in water should be given at once to prevent insulin shock.(3) If the diagnosis is wrong, no harm is done.

Newly diagnosed diabetics are usually hospitalized for an intense educational program which should include instruction in good oral care. The hygienist in private practice can supplement this teaching. The prevention of periodontal disease should be stressed because gingival blood supply is reduced in diabetes; this delays healing and decreases resistance to infection. Diabetics tend to have a low incidence of caries because they are on low carbohydrate and high-fat diets. Since they have a strict diet to follow daily, few recommendations need to be made in this area.

Respiratory Diseases

Asthma is caused by a spasm of the bronchi and bronchioles narrowing the lumen. In the hygienist's office, emotional stress or the presence or use of material to which these patients are allergic may precipitate an attack.

Asthmatic patients usually carry some form of medication and the hygienist should become aware of what it is and be able to assist in its administration in case of an asthma attack. Use of an aerosol vaporizer may be all that is needed to aid bronchodilation. If the patient takes oral medication, it may be wise to get him to take a tablet before each visit. After repeated visits, the patient should become more familiar with dental treatment and, therefore, more relaxed and less prone to an asthma attack.

Kidney Diseases

There are different manifestations of kidney infections. Of major concern in treating these patients is prevention of infection; therefore, the hygienist must stress preventive oral care.

Nephrotic syndrome often begins at a young age. Tooth discolouration may exist due to previous tetracycline therapy (Figure 2). These patients should be informed that the intrinsic stain cannot be removed, but good brushing habits are still essential for a healthy mouth. Patients with pyelonephritis may suffer from hypertension which may cause severe bleeding problems after dental work.

The patients who are treated by dialysis often are carriers of infections such as hepatitis; gloves to cover any open lesion should be worn by the hygienist as a precaution against long-term illness.

Glomerulonephritis is an often fatal disease manifested by fatigue and anemia. Often prolonged or involved treatment is impractical, therefore, preventive care must be instituted to reduce infection. By encouraging and involving the patient in his own care, a better attitude for the future can be achieved by the patient and his family.

Conclusion

In essence, dental management of the medically handicapped patient is not difficult. With a better understanding of the problems and limitations involved in treatment, a more relaxed atmosphere can be instilled in the office and with the patient's family in the home. The key to successful treatment is encouragement in home participation and patient confidence in the knowledge and work of both the dentist and the dental hygienist.

Acknowledgement

The author thanks Dr. A.F. Dungy of the Dental Department for technical advice, and for supplying the photographs, and the Medical Publications Department, The Hospital for Sick Children for help with the manuscript.

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Answers to Self-Assessment Test

- | | | | | |
|------|------|------|------|-------|
| 1. a | 2. b | 3. c | 4. d | 5. a |
| 6. c | 7. c | 8. b | 9. c | 10. a |

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WHAT IS THE POINT OF FORENSIC DENTISTRY?

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Introduction

One of the most commonly recognized aspects in the legal field of forensic dentistry involves the use of teeth for identification. Teeth provide a record of events or phases in the life of a person. Also teeth, as with fingerprints, have distinctive characteristics. Consequently, the dentition is important forensically for identification and establishment of criminal responsibility. Indeed, when the identification of persons is a problem, the formation and characteristics of the teeth and related structures frequently establish a solution. For example, teeth have provided the only clues for the identification of victims involved in mass disasters, sorting bodies from hotel fires or aircraft disasters, and exhumed victims. In addition, forensic dentistry has applications in situations of murder, criminal responsibility and the establishment of familial relationship between individuals.

Identification

Many systems of identification have been devised. One of the early systems involved cataloging anthropometric (body measurement) data. This system — the Bertillon system — was widely used during the last century by the police and other interested investigators, but subsequently gave way to the use of fingerprints (dermatoglyphics).

Fingerprinting, together with information on age, obvious markings and photographs is commonly used for identification today. Additional data, e.g. blood groups, health and dental records, prescriptions for glasses etc., are often included on government records. However, fingerprints are often destroyed in disasters. Consequently, because of their composition and hardness, the teeth tend to remain intact long after the soft tissues and remainder of the skeleton have been destroyed. Indeed the teeth and associated jaw remnants are often the most reliable and

consistent sources of information for identification. Especially if dental records are available for comparison, the teeth may prove invaluable for identification.

The most commonly used method in forensic dentistry is the matching of dental restorations and teeth with dental records. In addition, microscopic examination of sections of teeth, e.g. cementum, root resorption, conditions of the periodontal ligament, may provide valuable data concerning the age of the victim. This may be supported from examination of wear facets on the teeth.

Another method involves comparison of dental casts, e.g. orthodontic casts, with those taken from the victim. Alternatively, some workers claim to be able to abstract information about the teeth and jaws based upon portrait photographs taken when the victim was alive.

Eruption sequences of the deciduous or permanent dentitions may provide confirmatory evidence on the age of an individual. Such data, however, may not be useful when the ethnic origin of the victim cannot be established.

As the form of a tooth is predominantly influenced by genetic factors, teeth may provide invaluable clues in the establishment of familial relationships between individuals. There is an example when a forensic dentist was able to establish the identity of a daughter who had been kidnapped as an infant some 22 years before, i.e. dental casts of mother and daughter were compared to establish the relationship. In general, however, morphological aspects of teeth are controlled by many genes (polygenic), so that the picture is not always as clear cut as that derived from blood types which are often dependent upon single gene entities.

Finally, post-mortem changes in teeth may assist in determining the time of death. The pulp or dentine tissues follow a particular pattern of changes following death, and the invasion of dentine by fungi or certain bacteria or chemicals may provide corroborative information.

Dental Forensic Evidence

The physical characteristics of the dentition that may be used for evidence include normal morphological aspects, nature and effects of dental treatment: conditions that have arisen from accidents or pathological change.

Morphological aspects include the size and shape of cusps, congenital absence of teeth or parts of teeth, unique characteristics of particular surfaces of teeth, and features of growth, calcification, size and shape identified from radiographs. These aspects are mainly genetic in origin. Alternatively, enamel hypoplasia, tooth position in the dental arch or the nature and extent of wear of tooth parts may yield important information for dental identification.

In the categories of the nature and effects of dental treatment, important identification clues involve restorations of individual teeth, endodontic treatment, extractions, orthodontic or prosthodontic appliances. In this regard, unorthodox dental restorations are often crucial for dental identification, and include such features as insertion of jewels or precious stones in teeth or file markings.

In the category of conditions resulting from accidents or pathology, important information involves missing teeth, inclination of teeth, healed sockets or bone fractures, untreated carious lesions, broken teeth (especially chipped incisors), and changes in the alveolar bone following periodontal disease.

The frequency of occurrence of many of these features is related to age, sex, ethnic culture of dentist or patient and dental treatment. Thus, whilst such information may be vital in some instances, they may provide non-helpful information in others.

How Reliable Is Dental Forensic Evidence?

In many, if not all, instances, forensic evidence will be challenged by one group of people or another. The value of dental forensic evidence may vary depending on different circumstances. However, dental evidence often assists in arriving at a point when the evidence is beyond reasonable doubt. In this regard, there are tables published on the incidence of dental caries affecting certain tooth surfaces for different populations and the incidence of missing teeth. Dental treatment varies between urban and rural populations. Also, information about the variation of palatine rugae and extent of variations in tooth position, e.g. rotation, within the dental arch may be of value in narrowing down the likelihood of circumstantial evidence.

Conclusion

Dental evidence is proving to be of increasing value in the identification of victims of civil or criminal accidents, particularly where other methods of identification or determination of criminal responsibility have failed. Teeth record and retain the history of their development and history of incidents to which they have been subjected and so may provide

irrefutable evidence for identification. Indeed, even bite marks, in food or flesh, may provide sufficient incriminating evidence to convict a suspect. In this regard, the accurate maintenance of dental records is often of paramount supportive evidence. All medical records, referral information and reports, lab reports and invoices, radiology records, etc. should be enclosed with each patient's chart. Any personal information that one may feel is important should also be noted, for example marital problems or mental stress. When checking over the medical records special attention must be paid to allergies, medications, drugs, the patient's physician's name and phone number. It is most important to keep study models and casts for an indefinite period. An emergency dental kit should be standard equipment in every dental office and checked regularly. Such information may also be vital in cases of malpractice litigation.

Suggested Further Reading

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DISCOURSE ON DIET, DISABILITY AND DEATH —

J. E. MONAGLE, M.D.

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"While the rest of the world starves, North Americans continue to eat themselves to death!"

These extremes of "malnutrition" seem little related to safety. Still, within the Webster dictionary definition, "faulty or inadequate nutrition" and "improper diet" malnutrition is of far too common occurrence in Canada, and may often be the underlying though unsuspected cause of accident, injury, and death. This risk develops: 1. Through *Overweight*, the consequence of prolonged failure to adjust appetite to activity, 2. From the effects of *Unwise Dieting* for weight control, and 3. From *Skippping Meals*, badly scheduled meals and inappropriate food selection.

"The bigger they are, the harder they fall" may well be a valid truism for everyday accidents. The overweight person has a 15 percent greater likelihood of accidental death than has the individual of normal weight. It has been claimed, further, that serious and disabling injury from accidents occurs 30 percent more frequently among the obese than the non-obese. It may be questioned as to whether clumsiness (loss of agility is a kindlier expression!) causes those who are overweight to have more accidents, or merely that the impact of greater mass against a solid object, the ground, the edge of a bathtub, the dash or windshield of a car, results in more serious injury. There is evidence, though, that in some stressful situations the obese have significantly slower recognition and reaction times; postulated as probably related to the metabolic demands of greater body mass and accordingly carrying a greater risk of involvement in accidents.

Ignoring the fact that their excess adiposity has accumulated over many months and years, the dream of the overweight person, having acknowledged that

they want to restore their previous corporeal dimensions, is achievement of the new weight status within as short a time as possible. While most physicians would recommend a rate of weight loss not exceeding two pounds per week, or 8 to 10 pounds per month, and would prescribe a diet which does not impose marked physiological stresses, the bookstore shelves and the mass media present many promises of unbelievably rapid weight loss with a minimum of psychological control. All of these impose physiological stresses which can readily predispose to inattention, confusion, delayed perception and response, and so to accident.

A characteristic of virtually all "crash diet" schemes is a low blood sugar (hypoglycemia) to a level to cause mental confusion, dizziness and fainting. The appetite suppressing effect of the several low carbohydrate diets, whether high fat or high protein, results from a build up of toxic metabolic products beyond the capabilities of the kidneys and liver to eliminate them from the body. The toxic level which causes nausea and loss of appetite is equally that level which slows mental processes and neuromuscular reflexes. The strain on the kidneys also results in a high water loss and abnormal composition of the blood and body fluids. Each of these changes adds on to the effects of the others. The end result may well be that a person on such a diet is even more dangerous on the highway or in a hazardous occupation than if he was on medications for which warning is required against exposure to such risks.

It has been estimated that nearly three-quarters of the adults in North America leave home in the morning without breakfast, or having had a breakfast made up entirely of carbohydrate foods. The blood sugar after an overnight fast is at a low level which physicians consider "basal" for clinical tests. For many people this is sufficiently low to cause irritability, irrational emotional responses, "grogginess" and confusion. Breaking the fast with foods made up entirely of starches and sugars gives a quick surge of glucose into the blood stream, a sharp elevation of blood sugar. The body responds quickly to control

this rise, and in so doing over-reacts to produce a drop to below the basal level at around 1½ to 2 hours after eating. The symptoms may be accordingly more marked than at the basal level, and may even result in fainting. Add to these further, the effects of a sudden stress or a sharp emotional reaction (hasty braking to avoid an accident, and anger at that rush hour lane-hopper!) which stimulates a sudden release of adrenaline, creating metabolic demands which still further lower the blood sugar.

These sharp and erratic changes in the blood sugar level, and the symptoms which accompany them, can be avoided by having breakfast with a small amount of protein — an egg, sausage, a glass of milk, or even the amount of milk used with a bowl of cereal.

Studies at the University of Iowa showed markedly poorer classroom performance by students who did not have breakfast. An investigator in the Air Force some years ago found that airfield accidents too frequently involved personnel who had not breakfasted, or who had only coffee and toast or doughnuts. The times of the accidents coincided with those times when their blood sugar levels were lowest. The drinking driver may be a more identifiable hazard. Is the "non-breakfasted" driver in rush hour traffic really any lesser hazard? Or, should you have greater confidence in your co-worker handling power equipment without breakfast than in the one who carries a whiskey flask?

Skiping lunch is almost as common as missing breakfast and only slightly less hazardous. After an interval of five to six hours between meals much the same physiological changes are taking place as after the overnight fast. As a sound rule of thumb, it is unwise for anyone in an activity demanding alertness, concentration and reliable mental and physical responses to permit an interval of more than four to five hours between meals. This is a particularly sound precaution for driving. We are all conscious, though, of that drowsiness which follows a heavy meal, the result of the extra effort the body must devote to digestion. For long hours of driving it may be better wisdom to make more frequent lunch stops rather than a single stop for a full course meal. One should add the caution, though, that the snack foods available at most highway stops are high carbohydrate and nutritional junk. Milk, ice cream, cheese or meat sandwiches are much to be preferred over pie, cake, doughnuts, chips, or candy.

An unpredictable but not infrequent hazard of highway driving is from dehydration — excessive loss of water from the body. Most commonly when this happens thirst is intolerable before there is any impairment of mental function. Under conditions where there is a very rapid loss of water from the body surfaces over a two-to-four-hour period there may be dehydration to cause drowsiness and delayed responses before one is aware of thirst. Such a situation can develop when driving in extremely cold weather with

the heater turned high, or in hot weather with the vigorous air circulation with the windows down. The mental effect is quite similar to, and may be mistaken for, "highway hypnosis" and this type of dehydration may contribute to or aggravate the hypnotic effect of monotonous driving. A peculiarity of this dehydration is a sensation of seemingly unquenchable thirst immediately after eating.

For highway safety then, the wise driver makes the frequent rest stops, also a refreshment stop (non-alcoholic of course, and keeping in mind that pure water is an effective, economic and non-caloric beverage) and avoids driving when the interval since the previous meal has been more than five hours.

(Reprinted from *Safety Canada*, published by the Canada Safety Council, 1765 St. Laurent Blvd., Ottawa, Ontario, K1G 3V4).

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The buttons will be sold in lots of 100 only at \$10 per 100 buttons. Multiple lots can be ordered. However, order well before you need the buttons since they will be sent parcel post which takes up to two or more weeks for delivery. Make your cheque payable to the Canadian Dental Hygienists' Association. Do not send cash. Send your order and cheque to CDHA Lapel Buttons, c/o Mrs. Sharon B. French, 13 Hobbs Avenue, Ottawa, Ontario, K2H 6W8.

WHAT CAN A PERSON DO?

Human impulses have changed over the years along with the changes in human environment, but one impulse has remained constant: the desire to do something to make things better.

The question is on everyone's lips often: "What can I do? What can I do to acquire knowledge and develop wisdom, to cope with change and the disarray of life, to get along with people, to learn how to solve problems, to serve my family and my country, to become a better person, to grow old happily?"

Everyone likes to think he is in charge of his own life, but that belief is modified by the fact that he is part of a great universe. Mr. Satterthwaite summed this up in Agatha Christie's stories about *The Mysterious Mr. Quin*. "You say your life is your own, but can you dare to ignore the chance that you are taking part in a gigantic drama under the orders of a divine Producer? Your cue may not come till the end of the play — it may be totally unimportant, a mere walk-on part, but upon it may hang the issue of the play. If you do not give the cue to another player the whole edifice may crumble. You, as you, may not matter to anyone in the world, but you as a person in a particular place may matter unimaginably."

Everyone is a person in a particular place, with opportunities to contribute his or her part to the emerging pattern of human life. When desire to accomplish something is harnessed to a sense of the first-rate, expressing basic ideals in terms of today's environment, one is playing his part effectively.

Thinking Big

Men and women have gone by many ways to seek a happy life. Some have failed because they set themselves no definite goal, but drifted here and there always hoping to come upon the land of their vague dreams. Anyone who values present comfort more highly than the attainment of a purpose is contributing to disillusionment and disappointment, because it is uncomfortably true that no person ever passes his self-imposed limitation.

One must think big. It is deadly dull to be medi-

ocre. In business it is the person with a big view, comprehending not only his own job but all the surrounding jobs that contribute to it and stem from it, who becomes a superior person.

Ambition to accomplish something does not mean the same thing as competing for a quick getaway when a traffic light changes. It is a positive, purposeful, creative aim; an urge to do something definite.

What one can do is governed by an orderly mind that appraises the possibilities, analyses the difficulties, and controls the execution. One must be a dreamer to think of the destination, a planner to map out a path, and a drummer to set the marching time.

It is not necessary to have a great quantity of physical equipment in order to do something worthwhile. Aristotle was an astronomer without a telescope, a biologist without a microscope, a chemist without a laboratory, and yet for 2,000 years his conception of natural phenomena ruled science.

The person seeking to be somebody must occasionally escape into the land of dreams, having taken care to plan the return journey. A day-dream can be refreshing and inspiring if one remembers that one must come back to translate the dream castle into stone and mortar.

The person trying to do things will encounter difficulty, but that is all to the good. When a task is troublesome, it gives the worker a chance to show his capability: when a decision is perplexing, that opens the way to display superior judgment.

Look For A Vacuum

In seeking to find a line of activity it is a good rule to look for a vacuum and expand into it. There are many desirable things that have been left undone, many machines not yet invented, and many social ills for which a cure has not yet been found. These opportunities have to be looked for. Chance and luck are ineffective substitutes for active seeking.

Doing things is what counts. A career is made by doing something, not merely being something. Some have thought that Aesop's moral of the race between

the hare and the tortoise might have turned out differently. What if the hare, instead of sitting down on a soft bank to rest had sat, instead, upon a thistle? Some sting is needed by many sorts of people to get them going.

What can a person do? The first thing is to try to do something. It is only by trying that you will find out the stuff you are made of, and become aware of your possibilities. The next thing is to apply craftsmanship to whatever you are doing. That means doing habitually well what has to be done. The third thing is to use courage to surmount difficulties and ingenuity to get around obstacles.

By applying these guiding principles you become fully alive and you are responding in a positive way to life's challenges. How different that is from the stunted life of someone who asks: "Why should not I enjoy what others enjoy?" without doing what is necessary to earn that enjoyment.

Performance is what counts. The person who never shoots cannot carry off the marksman's prize; he who slinks away from a battle cannot be a hero; the person who is satisfied with paper plans does not attain success. Someone is always offering in an advertisement an easier way of getting on in the world than by study and work, but the people who make their way from obscurity to *Who's Who* do so by using intelligence, initiative and energy.

Working With People

The person who wishes to do things needs to learn to walk with people. He cannot live as a hermit does, even though his opinions differ greatly from those of the men and women who surround him.

People who go through life with granite-like convictions on every subject under the sun lead a cheerless existence, and are unlikely to succeed in attaining desirable objectives. They miss the thrill of exploring, the challenge of debating, and the excitement of finding out new things that help them to reach their goal.

Learning to like people and to get along with them by looking for the good in them is a satisfying way of life, and it wins friends. Xenophon saw the advantage long ago: "It is far less difficult to march up a steep ascent without fighting than along a level road with enemies on each side."

It pays to be considerate of others in little ways, to treat every person with such thoughtfulness that his memory of you will be pleasant. When you take pains and some trouble to see that others are not neglected; when you make sure of doing nothing that will cause others to lose face, you are contributing a plus value to mere courtesy, and you are building support that will help you to do what you wish to do.

Getting along with people entails communicating with them, and this is a two-way street. When we are tolerant of other people's opinions we win indulgence for our own. Canada has staked its future upon

the belief that in the free market-place of thought, by the matching of ideas, truth has a better chance of winning than by any other method known to man.

Spell Out Your Purpose

What can one do toward presenting ideas in such a way that they will be understood and win attention? Here is a rough draft that you may use in preparing practically any communication, written or spoken. (1) Show that a problem exists or that a situation needs correction; (2) explain the essential elements of the problem or the various aspects of the situation; (3) tell about the failure of previous attempts; (4) show why your solution is the best one; (5) picture your solution in operation, including the benefits it will give to others and the satisfaction it will give to those who join in reaching it.

Be specific: tell in definite terms the nature, place, time and method of the response you desire. It is possible to fail by not having clear in your own mind exactly what you wish to communicate in order to get action.

Anyone who seeks to do something beneficial must pay close attention to the audience. A glance at our environment will show that our high standard of living, brought about by our mastery of science and technology, will be menaced by the faulty use of signals between people, between ideologies and between nations. By misinterpreting signals (which is all that words are) we create disorder in human affairs.

Whatever you are trying to do can be done better when the purpose and methods have been openly and minutely examined. This eliminates the danger inherent in the all-too-common human tendency to see whatever we wish to see, to define right and wrong by what we would like to be right and wrong. Speak about your proposal with conviction and sincerity, but make allowance for another point of view.

Dialogue is necessary to attainment of any purpose. It explores problems by attacking and defending all positions until the false are cancelled out or the differences are reconciled. There is no problem, from writing a constitution for a nation to designing a new office form, that cannot be solved by discussion around a table. Without an interchange of views the human mind would still be sitting in primitive darkness.

Keep On Learning

To initiate form of any kind you need to be an intelligent, educated, informed citizen, acquainted with the values, privileges and responsibilities of our Canadian way of life.

The person seeking to do things needs more than a surface knowledge of what is to be done and the method of doing it. He has to go into the woods to scratch the bark of trees as well as to stand off to view the forest in perspective. Both background knowledge and intimate acquaintance are necessary in the process of reasoning.

Intelligence adds to knowledge by giving us the ability to discern relevant things, to put together things that ought to be joined and to keep distinct things that ought to be separated. Unless we know precisely what we are thinking about we cannot discriminate. If we are incapable of distinguishing the wonderful from the impossible, the true from the false, how can we choose between them?

When questioned about your project, never say "I don't know." Say, rather, "That's an interesting question: I'll find out." This is an attitude that has enabled people of only ordinary education and qualities to succeed in putting across their ideas.

It is unlikely that you will have at your fingertips all the facts about the proposition you are promoting, but you should know what facts are missing so that you may make allowance for the gap.

No preparation, no planning and no strategy can guarantee the success of what you are attempting, but only make it possible. You have thought of a desirable end, your imagination has played with possibilities, you have considered ways to overcome the obstacles: these mental pictures of the territory help you to find your way through it. You have not eliminated all risks, but you have reduced their number.

Patience And Responsibility

Patience is a virtue greatly needed by those who attempt great things. It is not always wise to wait and see, but it is desirable to have the courage to wait if it should become advisable.

Ella Wheeler Wilcox remarked wisely in one of her poems: "The fault of the age is a mad endeavour to leap to heights that were made to climb." You need to control the fretfulness that arises when your projects are delayed, thrown off the track or botched.

A big-souled person knows that anyone is only as good as his performance proves him to be. Some day your hometown may erect a statue to you, but, as Aunt Em said to the farm hand in *The Wizard of Oz*, "Don't start posing for it now." You have work to do, and probably more work and planning are spoiled by impatience than by any other fault.

It is not a sign of doubt when you re-examine things in a spirit of making sure. A person who boasts of lifelong consistency to ideas picked up in childhood is confessing that he has learnt nothing in the school of experience.

If it is your desire to be a leader in introducing new ways of thinking or acting, you need to take account of the responsibility you assume. All the shades of words and phrases are flattened out when the summons comes to stand up and be counted. The spirit of private adventure in introducing some new thing matures into the feeling of being responsible for its results.

The great number of people who have been acknowledged as leaders were people who had themselves learned the art of obeying. To be a good follower is a step toward being a good leader.

"What can I do under these circumstances?" is a question that must be answered with reference to your capacity, your strength of purpose, and your zeal.

The best measure of our success in life, said H.G. Wells, is the ratio of our accomplishments to our capabilities. Abraham Lincoln put it this way: "I am not bound to succeed, but I am bound to live up to what light I have." Lincoln's story is one of endless recommencements, of the dispersal of doubts, and of the need, every once in a while, to examine whether he was measuring up to his own standards and those set for him by society.

To live in that way requires boldness. As soon as you become preoccupied with the idea of security the scope of your life begins to be diminished. Many a brilliant plan has come to nothing because the person who thought it up lacked the courage or the zeal to put it across.

Be hopeful and expectant. Any rational view of life which promotes optimism is better than one which, however logical its quality, leads to pessimism and leaves you without hope. Optimism does not mean shutting your eyes to the realities of life, or peering into a crystal ball looking for a rosy future. It means living with a sense of expectancy and doing what you can to make your hopes come true.

As A Citizen

If what you want to do has reference to the government or management of the country you need to test your purpose in this way: does my purpose concern what people would like to have, or what people can manage to get, or what the state thinks it can safely allow them, or what people must have in order to function effectively and freely as citizens? Being a citizen implies the possession of an ideal, a sense of values, and a theory of what life in Canada may become.

This is a land where every man and every woman can find a place in society suited to his or her inclinations and capabilities. It is a country where the ordinary citizen has a chance to better his life. But he must accept the significance of our institutions. It is upon observance of the spirit of the laws and customs by which we live that the worthiness of our citizenship and the virtue of the causes we sponsor are judged.

We have assembled in Canada the adventurous spirits of numerous races in surroundings favourable to the creation of a great citizenship. They have brought with them vivid ideas and principles a thousand years old. No commonwealth ever wished for more ideal conditions than are provided by the contribution all these people can make toward the good life.

At heart, most Canadians share the same values. They live under a constitution that is the eighth oldest written constitution in the world, the second oldest of

a federal nature, and the oldest which combines federalism with the principles of responsible government.

But Canadian life is flexible, and there is room for those who wish to show their initiative in protecting its values and extending its well-being. Through its membership in the United Nations — it shared in drawing up the charter in 1945 — this country has taken an important and sometimes distinguished part in United Nations' deliberations and purposes, thus opening the way for citizens who wish to participate in world-wide humanitarian activities.

Many Canadians believe passionately that Canada has a great contribution to make to the welfare of mankind. We are still turning pages in our history, and every new page offers opportunities to people who wish to do something of significance. We have not yet reached our fullest development in art, religion, education, and intellectual growth. There are opportunities for constructive thought and action for everyone who chooses to use them.

There are things that can be improved, such as law enforcement, the relationship of capital and labour, the propagation of health, and advancement of our native people. These can be done within the framework of democracy by people who care enough to do something about them.

Cope With Change

Good judgment in public life is particularly needed in these days. For the first time in our history we have to share political and economic action with people who have a bewildering array of levels of knowledge and civilization, and at the same time we are undergoing a technological revolution at home. No people in history ever had to cope with changing life on so many fronts, and these changes offer prospects for beneficial activity to those who are alert.

True patriotism is not the emotional luxury of vanity showing itself in flag-waving, but a sentiment that expresses itself as a share in collective life. It asks "What can I do that will add to the welfare of the country?" The essence of citizenship is found in its values, its moral commitments, its deep loyalties, its conception of the good life, its teaching regarding the things for which and by which people should live, and the efforts of the people to attain the best possible.

A citizen must do what all good people are expected to do, and then he must do what his own particular status in the world demands of him and puts him in position to do. We have obligations, many or few, high or low, according to our talents and resources.

What we can do depends in large measure upon the strength of our inner discipline. Two men of different skills, more than two thousand years apart in time, agreed on this. Socrates, the Greek philosopher, taught self-discipline as the first virtue, saying it is necessary to make the other virtues avail, and Charles Darwin, author of *On the Origin of Species*, declared:

"The highest stage in moral culture at which we can arrive is when we recognize that we ought to control our thoughts."

As Family People

There is much that we can do as family people. The general stock of ideas and sentiments picked up by the hearth-side affect thought and action throughout life. Statesmen and financiers, educators and artisans, men and women in all activities of life, are influenced in their decisions and actions by the intangibles absorbed in their home life.

Here is a sphere of undoubtedly worthwhile effort. We should see to it that the family preserves itself, in spite of all change, as a group united by agreement as to the things they love, a group in which personhood is conferred and responsibilities taught.

We may measure the success of parents very largely by their willingness to work out approaches and to give training that will provide young people with the necessary guidance in arranging their lives so that they attain the greatest possible happiness.

Integrity, which means "uprightness, moral soundness" is learned in the family, so that people habitually discriminate between just and unjust, good and bad, noble and disgraceful, and follow the better path. It is there that we acquire a scale of values.

Be Forward-looking

Be heartily in earnest, believing in what you are doing. Persevere in spite of hindrances, discouragements and impossibilities. Add resolution and concentration to your natural ability.

Anyone who asks "What can I do?" is forward-looking. He does not start counting his years of age or his years of service as assets until he has nothing else to count. The life of accomplishment does not beckon alone to youth. It is for people of all ages. The happy life will grow upon us when we answer the question by asserting: "I will do *something*."

Many will agree that the very finest way for men and women who have had some measure of success in the world to discharge their debt to society is by passing back their knowledge to those who are coming along in their footsteps.

It may be said that there are five components of the happy life: health, work, interests, friendships and the pursuit of an ideal. It is necessary that you realize yourself as a whole, not in just one or another of these parts.

The person is fortunate who keeps his mind sensitized to the beauty and excitement of living, and is urged by his inner self to ask "What can I do?" The great thing is to advance, so that you feel at the end of your career that you have in some measure fulfilled the potentialities that you believe yourself to possess.

(Reprinted from The Royal Bank of Canada Monthly Letter Vol. 56, No. 12.)

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- MANITOBA DENTAL ASSOCIATION: 308 Kennedy Street, Winnipeg, Manitoba R3B 2M6
- ROYAL COLLEGE OF DENTAL SURGEONS: 230 St. George Street, Toronto, Ontario M5R 2N5
- CORPORATION DES HYGIENISTES-DENTAIREs: c/o Monick Valois, Secretary, Department of Preventive Dentistry, Faculty of Dental Medicine, University Laval, Quebec, Quebec
- NEW BRUNSWICK DENTAL SOCIETY: 65 Pacific Avenue, St. John West, New Brunswick E1E 2G2
- PROVINCIAL DENTAL BOARD OF NOVA SCOTIA: P.O. Box 604, Halifax, Nova Scotia B3J 2R7
- DENTAL ASSOCIATION OF PRINCE EDWARD ISLAND: R.R. #5, Montague, Prince Edward Island C0A 1R0
- NEWFOUNDLAND DENTAL BOARD: 103 Le Marchant Road, St. John's, Newfoundland A1C 2H5

CLASSIFIED ADVERTISING

Advertising copy should be directed to Debra Johnstone, Advertising Manager, No. 204, 4001 Mt. Seymour Parkway, North Vancouver, B.C. V7G 1C2

Classified advertising rates: \$10.00 per column inch. Remittance must accompany ads.

INSTRUCTOR — DENTAL AUXILIARY PROGRAMS — A faculty member is required to teach the Dental Assistant program presently in operation and a Preventive Dental Assistant program scheduled to begin in September 1977. Applicants should have a minimum of two (2) years' experience in the field of Dental Health preferred but not essential. Applicants must have or be able to obtain a licence to practice in the Province of Ontario. Applications with resume should be forwarded to: Director of Personnel, Cambrian College of Applied Arts & Technology, 1400 Barrydowne Road, Station "A", Sudbury, Ontario, P3A 3V8.

HYGIENIST for active Oak Bay, preventive oriented practice. New fully equipped operatory, separate from main office. Write or call Dr. B. Carr-Harris, 2098 Oak Bay Avenue, Victoria, B.C. V8R 1E4. Telephone (604) 598-2113.

ALBERTA — MEDICINE HAT. A full time dental hygienist is urgently required for a busy group practice. All latest equipment and diagnostic aids. Excellent salary. Please contact Dr. C.S. Hrankowski, 304 Royal Bank Building, Medicine Hat, Alberta. Telephone (403) 526-8694.

DENTAL HYGIENIST for Pediatric Practice in Vancouver. Good salary and benefits. Position available May or June 1977. Write to Dr. Gordon M. Jinks, #301 - 1701 West Broadway, Vancouver, B.C., V6J 1Y3. Telephone (604) 733-3031.

THREE-DENTIST preventive practice in Tisdale, Saskatchewan, requires another dental hygienist. Duties will include prophylaxes, control of preventive program and direction of panorex. Position available July 1st. Salary and/or commission to be negotiated. Please direct inquiries to Tisdale Dental Health Clinic, Box 1570, Tisdale, Saskatchewan S0E 1T0 or phone collect after 5 p.m. to Dr. Ted Phenix, (306) 872-4232.

DENTAL HYGIENIST required for Stony Plain Lac Ste. Anne Health Unit. Interesting and varied programme. Easy commuting distance from Edmonton. Salary range \$10,724 — \$13,728. Contact Dr. P.D. Finnigan, Stony Plain Lac Ste. Anne Health Unit, Box 210, Stony Plain, Alberta T0E 2G0.

DENTAL HYGIENIST required for preventive-oriented pedodontic practice in North Vancouver, B.C. Please apply to Suite 207, 145 West 15 Street, North Vancouver, B.C. or phone (604) 985-1911.

HYGIENIST: Motivated, interested recent grad or with one year experience. Full time position available in Richmond, B.C. preventive office. Salary negotiable. Phone (604) 277-1131.

COME TO VANCOUVER ISLAND! Experienced Certified Dental Assistant and/or Hygienist required. Reply in writing stating qualifications, references and salary expected to Dr. C.V. Stirzaker, 17 - 4965 Argyle Street, Port Alberni, B.C. V9Y 1V6. Telephone (604) 724-1331.

DENTAL HYGIENIST required in a modern preventive oriented group practice. Duties are varied. Excellent working conditions. To start in April 1977. This position is available for full time or summer months only if preferred. Please apply to Drs. Geisthardt and Mang, 533 Medical and Dental Building, Regina, Saskatchewan S4P 1Z8.

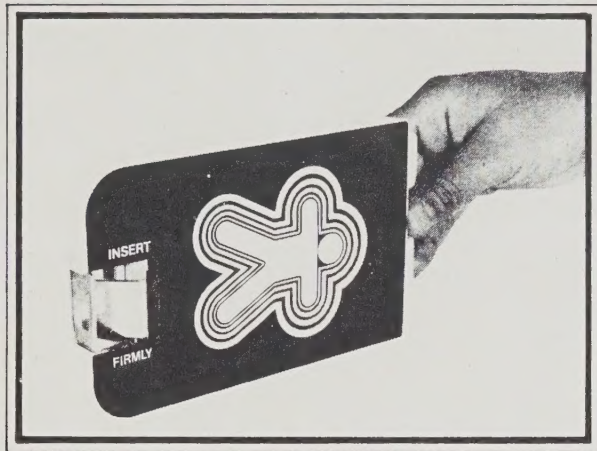
DENTAL HYGIENIST required for three-dentist group practice in Quesnel, B.C. Preventive oriented office. Please apply in writing to Drs. R. Lindholm, B. Delwo and R. Harrington, 462 Reid Street, Quesnel, B.C. V2J 2M6 or telephone (604) 992-8331.

BEAUTIFUL Victoria, B.C. beckons. We require a Hygienist full or part-time with flexible hours in a 3 man group practice. Please send resume to Dr. Ben Turner or Dr. Ron Parfitt, 1554 Cedar Hill Cross Road, Victoria, B.C. V8P 2P4.

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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

SUMMER 1977 ETE

VOLUME 11, NO. 2

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$8 per year in Canada and \$10 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$8 par année au Canada et \$10 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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**ICHA JOURNAL
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Marjorie Dimitri, Editor

The Canadian Dental Hygienist, edited by Marjorie Dimitri, was one of three publications accorded an Honorable mention in the Golden Pen Category of the 1977 International College of Dentalists Journalism Competition, chaired by Dr. Alfred E. Seyler. The journal was cited by the judges for continued improvements in content — scientific articles, news and features. Presentations to the editors were made by Dr. James J. Ficca, president of the U.S.A. Section of the ICD during the American Dental Association Journalism Conference, March 28 and 29 in Portland, Oregon.

In light of this recent honor, we would like to acknowledge and thank the people who participate in the preparation, publication and circulation of the journal. In addition, we would like to thank our many contributors.

**ENTRIES INVITED FOR 1977
COMMUNITY PREVENTIVE
DENTISTRY AWARD**

The American Dental Association announces that entries now are being accepted for the second annual ADA Community Preventive Dentistry Award program. Entry applications and information brochures are available from: ADA Community Preventive Dentistry Award, 211 E. Chicago Ave., Chicago, Illinois 60611. Entries must be postmarked by August 15, 1977.



*June Coe,
Subscriptions Manager*



*Debra Johnstone,
Advertising Manager*



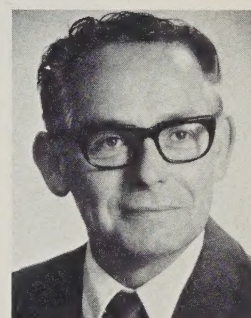
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Advisor*



*Joan Voris,
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*Doug Gordon,
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**THIRTEEN YEARS OF HELP
FOR CFDE FROM WRIGLEYS**

The Canadian Fund for Dental Education was first organized in October 1962 with the objectives of assisting and improving the level of dental health by means of teaching and research in the dental schools; assisting in the growth, development and advancement of dental education by investigation of problems related thereto; and assisting in elevating qualifications for teaching personnel.

A great idea, but it didn't take the five founding trustees long to discover that if their new "baby" was to grow, they needed skilled help — preferably for free. Fortunately about this time the Canadian Wrigley Company discovered CFDE and voluntarily offered to help in any way it could.

No doubt the trustees were pleasantly surprised by this unexpected offer of assistance for dental education and research from a large chewing gum company.

The CFDE trustees' fears, if they had any, were soon put to rest when they learned from their counterpart in the

United States (the American Fund for Dental Education) that the Wrigley Company had been providing them with much needed and appreciated assistance for several years, simply because the Company felt an obligation to help advance dental health.

And so began a relationship that continues to be of significant help to CFDE. Starting in 1965 Wrigleys instructed its advertising agency to provide free of charge all the assistance CFDE needed in designing various promotional pieces, annual reports, stationery and forms of all kinds. The agency gladly supplied this service for the next several years — until the need for its help had largely disappeared.

Additionally, starting in 1965, the Wrigley Company has made substantial annual cash contributions that now total \$29,000.

In accepting the most recent gift of \$3,000, Mr. Stanley O. Tebbutt, Vice-Chairman of the Fund, said: "The Wrigley Company has an outstanding record of tangible help for dental education and research over a period of many years and the CFDE trustees are deeply grateful for this generous assistance."

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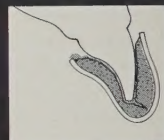
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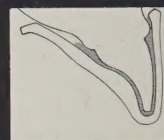
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and 3,955,281. Canadian Patent No. 782,800.
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REPORT PUBLISHED ON DIET AND CARDIOVASCULAR DISEASE

Health and Welfare Minister Marc Lalonde has made public the report of a special committee of independent experts established in 1973 to study the relationship between diet and cardiovascular disease in Canada.

The **Committee on Diet and Cardiovascular Disease** reports that diseases of the cardiovascular system cause more than 50 per cent of all deaths in Canada and cost the Canadian economy over \$1.2 billion annually. To reduce the risk of heart-related disease, Canadians are urged to avoid smoking, maintain physical fitness, and eat according to the general dietary guidelines which were produced by the Committee and which are in keeping with the revised Canada's Food Guide.

The Government is urged to promote vigorously several specific dietary recommendations:

A reduction in caloric intake from fat, to 30 - 35 per cent of total calories, mainly as a decrease in saturated fat (the Canadian average is now about 40 per cent);

A partial substitution of polyunsaturated for saturated fat;

An intake of cholesterol of no more than 400 mg daily;

A diet which contains less alcohol, salt and refined sugars, and more whole grain products, fruits and vegetables;

The prevention and control of obesity by reducing excess calories and increasing physical activity. Precautions should be taken that no deficiency of vitamins and minerals occurs when total calories are reduced. And finally,

The Committee recommends that government encourage industrial development of new food products, including food substitutes, in accordance with the dietary recommendations.

The Government will give the report close and detailed study. The recommendations require detailed assessment to determine their acceptability and feasibility of implementation. Copies of the report are available on request, from Educational Services, Health Protection Branch, Department of National Health and Welfare, 255 Argyle Street, Ottawa.

DECLINE IN CIGARETTE SMOKING

The percentage of Canadians who smoke cigarettes regularly continues to decrease according to figures released by Health and Welfare Minister Marc Lalonde.

For the total population 15 years of age and over, 37.3 per cent reported they were regular (that is, daily) cigarette smokers in 1975 compared to 38.3 per cent in 1974. For those 20 years and over, the figures were 38.7 and 39.6 per cent for 1975 and 1974 respectively.

Most of this decrease can be attributed to declines in the percentage of males who smoke cigarettes regularly. For males 15 years of age and over, 43.3 per cent reported regular cigarette smoking in 1975 compared to 45.3 per cent in 1974. Over the 11-year period from 1965 through 1975, the data indicate an 11 per cent decrease in the percentage of regular male cigarette smokers.

No change occurred in the percentage of regular female cigarette smokers 15 years of age and over between 1974 and 1975. In 1974, 31.5 per cent of females were regular smokers while in 1975, 31.4 per cent reported regular smoking.

The levelling off in the per cent of regular female cigarette smokers aged 15 to 19 which appeared in 1973 continues. In 1970, 1972, 1973 and 1974 the relevant percentages were 24.9, 28.4, 28.6 and 27.8 while in 1975, 27.4 per cent of this group smoked regularly. For males aged 15 to 19 years, the declining trend in the percentage of regular cigarette smokers which occurred following 1970 is reinforced by the 1975 data. In 1975, the percentage of regular smokers in this group was 29.5 per cent compared with 35.7 per cent and 32.3 per cent in 1970 and 1974 respectively.

Regional comparisons reveal that Quebec continues to have the highest percentage of both male and female regular cigarette smokers, 15 years of age and over. For males, the 1975 regional figures were 50.4 for Quebec, followed in order by the Atlantic Region (44.5), Ontario (40.6), the Prairies (39.5) and British Columbia (39.2). The figures for females were 34.6 for Quebec, followed by the Atlantic Region (30.3) and British Columbia (30.3), Ontario (30.1) and the Prairies (29.9).



Joan Voris presents table clinic.

UBC ALUMNI NIGHT

"Changing to Meet the Needs" was the theme of the first UBC Dental Hygiene Alumni Night. The program, which was organized and co-ordinated by Frances Lawson from the Dental Hygiene Alumni Association and Joan Voris, Supervisor, Program of Dental Hygiene, was opened by Dr. S. Wah Leung. Presentations included an overview of the academic changes which have occurred, organization and implementation of continuing education programs, and a trip down memory lane. The alumni were then invited back to the Faculty of Dentistry for table clinic presentations by the faculty and students on new techniques, philosophies and materials currently used in the program.

GENERAL MILLS SPONSORS NUTRITION NEWSLETTER

General Mills, Inc. has implemented a series of "nutrition update" newsletters specifically for health professionals. Concise, well-documented, "balanced" literature reviews will be prepared by national experts. The newsletter, entitled **Contemporary Nutrition**, will be distributed to dietitians, dentists, food technologists, physicians, educators, nurses and other health professionals on a monthly basis — free of charge. The newsletter will cover both sides of one 8½" x 11" sheet of paper. The lower half of the back of the sheet will contain key references.

If you would like to receive a copy each month, please contact A. Elizabeth Sloan, Ph.D. — Editor — **Contemporary Nutrition**, Nutrition Department, General Mills, Inc., Box 1113, Minneapolis, Minnesota, 55440. (612-540-7204)

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Sc.D. FOR DENTAL HYGIENISTS

In September 1976, the first two students were admitted into the new degree program for dental hygienists at the Faculty of Dentistry, University of Toronto. This special program is offered for a limited number of dental hygienists who hold a University Diploma in Dental Hygiene or its equivalent, and who wish to prepare themselves for academic responsibilities or administrative positions in dental public health. The course is two full academic years in length and may not be taken part-time.

New trends in dental auxiliary education are presenting ever-increasing demands for qualified staff. Students are being prepared to assume teaching responsibilities in biological, dental, clinical and social sciences as well as administrative functions such as curriculum planning, admission procedures, student counselling, preclinical and clinical evaluation, and budget preparation. Dental health education, teaching methodology, preventive dentistry, statistics and epidemiology, and dental public health are also contained in the curriculum.

Core courses are taken by all students. Later, they can select an optional area of study related to their own individual interest. This major, whether in science, administration or dental public health, will be studied in detail and an essay related to this selected discipline is a requirement.

This program is not "in" dental hygiene but rather "for" dental hygienists. Their educational background permits the in-depth study necessary for the Bachelor of Science in Dentistry degree.

The Division of Post Graduate Dental Education, Faculty of Dentistry, University of Toronto, has established the course in collaboration with the Division of Dental Hygiene. We are grateful for the opportunity of seeing this dream become a reality — that is, a challenging program for dental hygienists to continue their education in a dental discipline and prepare themselves to make a significant contribution to dental auxiliary education or dental public health.

Interested dental hygienists wanting more information concerning the course and application procedures should write to Dr. M. Jackson, Director, Division of Dental Hygiene, Faculty of Dentistry, 124 Edward St., Toronto, Ontario M5G 1G6.

Marjorie Jackson, D.D.S.

REVISED CANADA'S FOOD GUIDE

Health and Welfare Minister Marc Lalonde has recently made public the revised Canada's Food Guide. The purpose of Canada's Food Guide is to provide a common basis for nutrition education. It is a flexible tool which can be adapted to the needs and circumstances of all Canadians.

The new Food Guide was developed by the Federal/Provincial Committee on Nutrition, an advisory committee to the Department of National Health and Welfare. It evolved from earlier versions through evaluation of food consumption patterns found in the Nutrition Canada Survey. Comments on the revision were obtained from dietitians, home economists, physicians, and nutritionists, both through professional associations and directly from individuals.

One change in the revised Guide is the amalgamation of the fruit group and the vegetable group. This change does not minimize the importance of vegetables nor encourage the substitution of fruits for vegetables. The Guide specifies at least two servings of vegetables each day out of four or five servings recommended in the fruit and vegetable category.

Other recommendations include milk and milk products according to age, two servings of meat and alternates per day and three to five servings of bread and cereals.

A handbook on the use of the Guide has been prepared and will be available later in the spring. Designed primarily for teachers and others involved in nutrition education, it includes teaching ideas and covers such subjects as snacking, use of supplements and the special requirements of certain individuals.

Copies of the new Canada's Food Guide are available free of charge to the general public from local health units and provincial health departments. It is hoped that many Canadians will take advantage of the Guide's availability and make an effort to improve their nutrition habits.

DENTAL HEALTH BUTTONS SOLD OUT

Sharon French, Chairman of the CDHA Community Dental Health Committee, reports that the entire stock of 10,000 buttons has been sold. The committee will be submitting plans for next year with consideration being given to revised art work.



Hans Franzgrote

IN MEMORIAM

It is with regret that I have just learned of the death of Hans Franzgrote of Maxville, Ontario. Hans took his early dental training in Germany and became a dental hygienist through the Canadian Armed Forces Dental Corps. He was the first male hygienist to be licensed in Ontario in 1969 when he very successfully sat the R.C.D.S. Ontario Board Examination. Hans was employed by the Eastern Ontario Health Unit in Cornwall for many years.

As soon as he was licensed and eligible, Hans became an active member of the ODHA and CDHA. In the past, he served very capably as Editor of the ODHA Newsletter and the CDHA Journal.

I had the opportunity to work with Hans through our mutual interest in our professional association and came to respect his professionalism and ability. He will be missed by many. It is my feeling there are many of his colleagues in Canada who will want to know of his passing and who will join me in offering condolences to his family.

*Pat Johnson, R.D.H.
Ontario*

WESTERN CANADA DENTAL SOCIETY CONVENTION

July 4, 5 and 6, 1977

BANFF, ALBERTA

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SELF-ASSESSMENT TEST

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

Following is the second of a series of self-assessment tests to be published in the 1977 issues of THE CANADIAN DENTAL HYGIENIST. The questions have been taken from Shailer Peterson's COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS and incorporate three areas of dental hygiene practice: performing prophylaxis, applying topical agents, and providing individual oral health instruction.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 44 for the correct answers.

- Subgingival calculus is more difficult to remove when its mode of attachment is
 - to a cuticle.
 - to the epithelial sheath of Hertwig.
 - into areas of root resorption.
 - by a bacterial matrix on the surface of cementum.
- Sterilization by autoclave (steam under pressure) is achieved by practicing which of the following?
 - The action of heat and moisture under pressure attains high temperature.
 - Steam penetration and heat transfer is attained when air is included.
 - 275°F. is the proper temperature used under pressure.
 - The load must be tightly packed to allow air to be discharged in a downward direction.
- The purpose of curettage is
 - to enlarge the periodontal pocket by removal of the epithelial lining.
 - to promote healing by removal of the epithelial lining of the pocket.
 - to remove subgingival calculus in the periodontal pocket.
 - to smooth root surfaces adjacent to the periodontal pocket.
- An 8-year-old child presents for a dental treatment. Examination reveals deep fissures in teeth 3, 14, 19, and 30. What preventive procedures would you initiate?
 - Apply ethyl aminobenzoate agent.
 - Prescribe dietary fluoride supplements.

- Prescribe fluoride rinses.
 - Apply fluoride, or sealant, or both.
- The most logical way to alleviate sensitivity is to apply to the areas of sensitivity
 - a topical fluoride treatment.
 - a 4% silver nitrate solution.
 - a toothpaste with fluoride.
 - oil of cloves.
 - In what areas of the mouth is topical anesthetic most readily absorbed?
 - Skin and lips.
 - Palatal mucosa.
 - Buccal mucosa and vestibule.
 - Gingiva and hard palate.
 - A good preventive dental hygiene program is vital for a patient with diabetes mellitus because
 - he has a lowered resistance to infection and a delayed healing process.
 - he is especially prone to rampant caries.
 - he has a lowered metabolic rate that results in dietary deficiencies.
 - all of the above.
 - What is the vitamin that plays the most important role in wound healing and whose requirement is proportionately increased in the presence of infection, fever, and capillary fragility?
 - Vitamin A
 - Vitamin B complex
 - Vitamin C
 - Vitamin D
 - Vitamin K
 - What is the product of sucrose metabolism that is associated with the gummy inert fibers found in the dental plaque?
 - Glucose
 - Dextran
 - Levan
 - Fructose
 - A protein-deficient diet could result in which of the following oral conditions?
 - Glossitis and fissures at the corners of the mouth. *B 12 B2 K1*
 - A disease known as Kwashiorkor in which there is a delayed eruption and hypoplasia of deciduous teeth.
 - Prolonged bleeding of the gingivae.
 - Atrophy of the muscles of mastication.

The 3rd Edition of COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS, edited by Shailer Peterson, provides an all-inclusive and function-oriented review of dental hygiene and is a worthwhile reference for all graduates. In addition to providing information on must subject areas, it includes many multiple choice questions which may be used to test comprehension and knowledge. This text is available from the C.V. Mosby Company, 86 Northline Road, Toronto, Ontario M4B 3E5.

JOAN S. VORIS, Chairman
CDHA Education Committee

DANGER LURKS IN THE MEDICINE BOTTLE

Danger is a meaningless word to a young child. Manufacturers of toxic products comply with the laws and print big, bold warnings on containers, but such measures are futile for protecting children who cannot read. Adults must provide the safety protection for them.

One of the most common medical emergencies among young children is the accidental ingestion of substances, particularly medicines. This year, more than 500,000 children will swallow poisonous materials — including medicines — found in their own homes. Of this number, approximately 2,000 youngsters will die.

Children under the age of five are in stages of growth and development where they are constantly exploring and investigating the world around them. This is the way they learn. It is a normal characteristic and should not be discouraged.

Unfortunately, what children see and reach for, they place in the mouths: pretty pills from grandma's purse, or the bottle of pink syrup medicine left on a bureau too near the crib.

Dentists and dental hygienists, knowing the psychology of the mouth, can explain to parents that youngsters from the time of their birth experience oral gratification. Bottle and breast feeding are only the early factors in the developmental patterns that place emphasis on the mouth. As the child's mobility, ingenuity and capabilities increase, storage of medicines and household products should be changed accordingly. Such stages of development include when he is crawling, while he is a toddler and when he starts to climb.

An important aspect of a comprehensive poison prevention program in a dental practice should certainly include advice to adult patients on the proper

use of and respect for medications. Parents will be especially grateful for information on this problem, particularly when medicines are prescribed for them or for their children.

Counselling parents on the dangers of misusing medications should include information on the re-arrangement of storage. Most bathroom medicine cabinets do not have locks. Better alternatives are lockable cabinets, drawers or linen closets. Other pointers might include:

- Medicines should never be referred to as "candy."
- Adults should avoid taking medicines in the presence of children. Children are notorious imitators.
- All medications should be properly labeled. Labels should be read before using, paying close attention to recommended dosages.
- Medications should be disposed of after the condition for which they are prescribed has passed.
- Lights should always be on when giving or taking medicines.
- Medicines should never be set aside while you answer the telephone or the door.
- Medicines should be kept in their original containers, never in cups or soft drink containers.

The dentist should also insist that pharmacists place medications in the new safety containers which are now standard. Further, patients should not ask the pharmacist to substitute conventional-type packages unless a condition like arthritis requires it.

Safety packaging, however, should never be considered a "cure-all" for poisoning. Some children, because of their ingenuity and manual dexterity, will succeed in opening the package. Now is a good time to be examining our habits relating to medications of all types to be sure that we are doing our part to help prevent accidental poisonings.

IMMUNIZE AND PROTECT YOUR CHILD*

Dr. H. Mahler, Director-General of the World Health Organization, states, "It is tragic that vaccination, one of our most effective techniques in preventive medicine, is not yet available to all children in the world. Over the last 50 years vaccination has been outstandingly successful in many countries in controlling diphtheria, whooping-cough, poliomyelitis and measles, while tetanus and the childhood forms of tuberculosis are also becoming rare diseases".

In contrast, we estimate in the "developing world" there are 80 million children born each year who require, but do not receive, protection. There are a number of reasons for this state of affairs; their relative importance varies from country to country.

A lot more can be done. Health care systems can be improved to provide immunization along with other effective services for children and mothers; they can be expanded to reach the rural populations and the urban poor. The informed co-operation of the people, the raising of the funds and the effective strengthening of the basic health services are all difficult necessities, but attainable and very worthwhile.

To establish an efficient and permanent childhood immunization service is a significant step for any nation's progress in that direction.

Immunization in Canada

It is estimated that more than one-quarter of the children in the City of Toronto have never been immunized against these diseases.

Despite the fact that immunization protection against diphtheria, whooping-cough, poliomyelitis, tetanus, measles and smallpox is available in Canada, authorities are concerned that there are too many children in Canada who have not been given this protection.

Recently there were several deaths from diphtheria. It is unfortunate that this serious disease, which is entirely preventable, should continue to occur with such tragic results, but it serves to remind us that the possibility of infection with diphtheria organisms is still present and that immunization with the recommended booster doses must be provided for all our children if the disease is to be controlled.

Poliomyelitis has been almost completely eliminated by the routine use of polio vaccines during the past decade. While this vaccine is given to all children as part of the regular immunization programmes it should be remembered that adults need reinforcing doses as well if we are to prevent the recurrence of this disease which caused so many cases during the summer months more than fifteen years ago.

The responsibility for immunization — for making sure your children are protected — is up to you — the parents. Have your children immunized by your family doctor, or, for school age children use school immunization programmes provided by Health Units.

Do your share — make sure your children are immunized. Consult your family doctor, public health nurse or your local medical officer of health.

A Message from the Health League of Canada

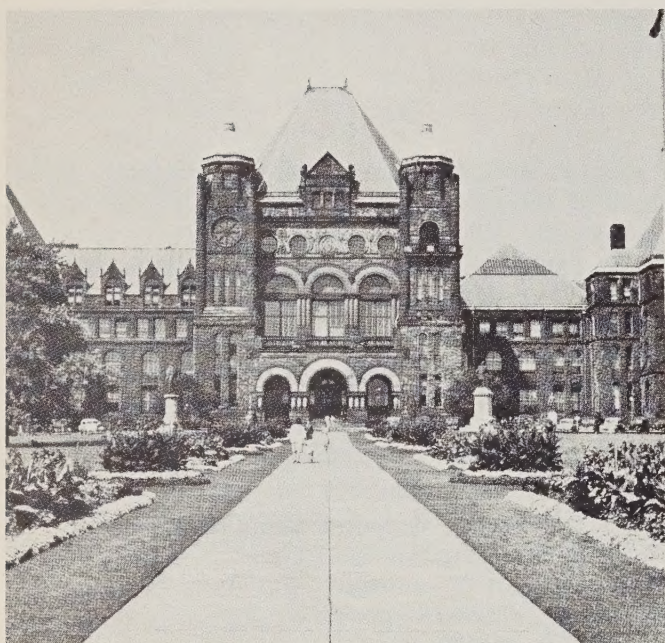
The Health League of Canada commenced a campaign against diphtheria, in the City of Toronto, in 1929, when in that year there were 1,022 cases and 64 deaths. This was known as Toronto Toxoid Week. By 1934 there was not a death from diphtheria and in 1940 there was not a single case. By 1943 this campaign was conducted across Canada as National Immunization Week. So successful were the results that the immunization programme is now part of NATIONAL HEALTH WEEK — which is now in its 33rd year. Its objective is the prevention of disease.

The Health League is glad of the opportunity to emphasize the need for continuous immunization throughout Canada in co-operation with the World Health Organization and the health authorities. It makes good sense to protect yourself and your family against all preventable diseases, particularly in these days of large-scale overseas travel and immigration.

BE WISE — IMMUNIZE!

**Immunize and Protect Your Child was the theme of World Health Day during Canada's 33rd Annual Health Week, April 3 to 9, 1977, sponsored by the Health League of Canada — a National Citizens' Committee for the World Health Organization in co-operation with government health and education departments, voluntary health organizations, nurses, doctors, dentists and allied groups. The address for the Health League of Canada is 76 Avenue Road, Toronto, Ont. M5R 2H1.*

COME TO TORONTO IN OCTOBER



The Old Toronto — Parliament Buildings



The New Toronto — City Hall

Transitions '77: The Challenge of a Changing Career has been selected as the theme for the 14th Annual Convention of the Canadian Dental Hygienists' Association to be held October 23 to 26 in Toronto, Ontario. Convention headquarters will be located in the Bond Place Hotel.

At the same time, the Canadian Dental Association will be hosting the 65th Annual World Dental Congress of the Fédération Dentaire Internationale, to which all dental hygienists are invited. This is the first time the CDA has had the opportunity to host a World Dental Congress and attendance figures are expected to soar to record heights.

A major drawing card for any national or international meeting is its location and this year's World Congress is no exception. Toronto has been termed "the world's newest great city" and has gained a justifiable reputation as a leading North American convention centre.

Vital, clean, safe and, above all, exciting, Toronto is home to two and a half million people embracing more than 70 different ethnic communities. The variety of the City's attractions astonish the first-time visitor. Walk in any direction from your hotel and you can visit museums, cinemas, galleries and open-air markets or wander through centres of high fashion boutiques and sidewalk cafes. In the heart of the City, ballet, opera, concerts and folk festivals compete for attention as do the hundreds of ethnic restaurants, nightclubs and the biggest collection of "off Broadway" theatres outside New York.

Yet, for all its entertainment and dynamic lure, Toronto is a study in contrast. It has been described as North America's most civilized city, where one is astonished by its cleanliness, its beautiful tree-lined streets and boulevards, complemented by hundreds of rural-like parks, and its charming blend of old and modern architecture.

Major international attractions abound in Toronto and Congress delegates and their families will find something to satisfy every interest. The Royal Ontario Museum, the Art Gallery of Ontario and the McLoughlin Planetarium are all centrally located. The Museum houses the world's finest and largest collections of Chinese treasures as well as other outstanding exhibits from history and the natural sciences. The Art Gallery boasts the world's largest collection of Henry Moore sculptures donated to the

people of Toronto by the artist. The Planetarium is one of the largest in the world.

Delegates will also want to visit Toronto's renowned City Hall, a unique and awe-inspiring landmark, as is the CN Tower, the highest free-standing structure in the world. The Ontario Science Centre in the north end of the city has been called the museum of the 21st century. It occupies a 20 acre portion of a 30 acre park and has received international praise for its emphasis upon interpretative exhibits of scientific principals and technological achievements. Most exhibits in the Science Centre are designed to involve the visitor and the motto is "please touch".

The Metro Toronto Zoo and Ontario Place are another two "musts" on any visitor's itinerary. The Zoo, hailed as the most advanced in the world, is set in 710 acres of beautiful forest, river valley and rolling plain and is a biological park which can take days to explore fully. Ontario Place is a 96 acre recreation and cultural world set on man-made islands and elevated pavilions of glass and steel on Lake Ontario and encompasses a 320 boat marina, 20 restaurants, cafes and nightclubs, an amphitheatre with a capacity for seating 800 people and boasting the world's largest curved screen, and the most enchanting and unusual children's playground ever built.

Other attractions of the city include: Casa Loma, a medieval-style castle built in 1911; the Hockey Hall of Fame; and the Toronto Islands, an isolated paradise of parks, lagoons, yacht clubs and beaches reached by a ferry ride across the harbor.

These are just a few of the points of interest to be seen and enjoyed in Toronto. There are many more in the city and more still within a short distance of the city limits.

Whatever your tastes, whatever your interests, you'll find Toronto offers fun, excitement, stimulation and plenty of action.

THREE MAIN THEMES HIGHLIGHT SCIENTIFIC PROGRAM FOR FDI WORLD DENTAL CONGRESS

Planning for the Congress is now well underway and promises an excellent balance of stimulating scientific study and enjoyable leisure activities.

The scientific program, which features an outstanding lineup of international speakers, is being developed around three main themes: 1. Adhesion in the Oral Environment; 2. A New Look at Pain and its Control; and, 3. Oral Health and the Quality of Life. A full day will be devoted to each theme with panel discussions, symposia and open sessions designed to examine the various aspects of the theme in detail.

Chairmen, panelists and speakers scheduled to participate in the theme discussions will be readily recognized as some of the world's foremost authorities in the field of dentistry today.

Sessions on the three main scientific themes will be balanced by a wide range of lectures and symposia on topics of interest to general practitioners and specialists alike. Experts from countries around the world will take part in symposia on such subjects as: Emotional Factors in the Patient/Dentist Relationship; The Impacted Third Molar; The Medical/Dental Problems of the Aged Patient; and, Endodontics Today.

Lecturers scheduled to participate in the Congress scientific program include: Dr. Gordon J. Christensen of the U.S.A., "Pertinent New Clinical Techniques and Materials in Restorative Dentistry"; Dr. V. Andreev of Bulgaria, "Diagnosis and Treatment of Oral Cancer"; Professor C. Enwonwu of Nigeria, "Nutrition and Oral Health"; and, Dr. G.E. Sparrow of Canada, "Photography in Dentistry and at Play".

Open sessions of various FDI Commissions, also part of the scientific agenda, will give delegates some insight into such matters as: adhesion in dental materials; the effectiveness and delivery of continuing dental education; and, dental care delivery systems in Canada.

A French language program is also listed on the agenda with Professors P. Desautels and P.P. Giroux of Canada and Professor H. Sahel of France as the featured speakers.

Lectures, symposia and panel discussions will be complemented by table clinics, motion pictures, scientific exhibits and a large dental trade show throughout the scheduled days of the Congress.

Another highlight of the program will provide an introduction to Canadian teaching in dentistry and to ongoing research projects. Arrangements have been made for half-day visits to the Faculty of Dentistry, University of Toronto, and to affiliated teaching hospital facilities. These will include the world renowned Cleft Palate Clinic at the Hospital for Sick Children and the general dentistry programs at Sunnybrook, Toronto General and Mt. Sinai Hospitals. Access to the Burlington Orthodontic Research Study is also planned.

Scientific sessions will be presented at the Royal York Hotel, which will serve as the Congress headquarters, and at the Automotive Building on the grounds of the Canadian National Exhibition. Shuttle bus service will be operating between the exhibit buildings and Toronto hotels throughout the Congress.

The CDHA's scientific program will be featured in the fall issue of the journal along with applications for registration. Plan now to attend the 14th Annual Convention of the CDHA and the 65th Annual World Dental Congress of the FDI, both in Toronto in October.

CANADIAN POSITION ON SACCHARIN

National Health and Welfare Minister Marc Lalonde has announced that following careful evaluation of all scientific evidence and after consultation with experts in other countries, the Health Protection Branch (HPB) of his department is banning the artificial sweetener saccharin from use in foods, cosmetics and as a sweetening agent in drug preparations. This action is predicated on the results of a study that has been in progress for over three years in HPB laboratories, which indicates that saccharin is a potential cancer-causing agent.

Saccharin will be phased out in the following way, taking into account the amount of saccharin normally consumed in each product category:

1. The sale of beverages such as soft drinks, beverage bases and beverage mixes containing saccharin will not be permitted after July 1, 1977;
2. The sale of all other foods containing saccharin will not be permitted after November 1, 1977. It is proposed, in conjunction with medical experts and the food industry to review and assess the role of saccharin in special foods for diabetics. Exemptions from the ban will be considered upon receipt of their recommendations;
3. The sale of drugs containing saccharin as a non-medicinal ingredient will not be permitted after December 31, 1978. It is proposed through consultations with medical experts to review and assess the role of saccharin as a sweetener to obtain patient compliance with the directions for use of life-saving drugs. Exemptions to the ban will be considered upon receipt of recommendations from these experts;
4. The sale of cosmetics containing saccharin and which are subject to very limited ingestion, such as mouthwashes and toothpaste, will not be permitted after December 31, 1979;
5. The sale of saccharin as a single ingredient drug

or in combination with cyclamates will be limited to pharmacies as of September 1, 1977, to provide diabetics and others who must restrict their intake of carbohydrates with access to a carbohydrate-free sweetening agent.

This Canadian action has been taken after consultation with the Canadian Medical Association, the Canadian Dental Association, the Canadian Diabetic Association and the Registrars of Pharmacy. As stated above, the action is based upon the findings of a study conducted by HPB, in which rats were fed a diet providing 2500 milligrams per kilogram (mg/kg) of body weight per day of sodium saccharin for two generations. The parent generation male animals given saccharin developed both benign (non-cancerous) and malignant (cancerous) bladder tumors. In male rats of the second generation whose mothers received saccharin during pregnancy and lactation, the bladder tumors were mostly of the malignant type. The increased incidence of bladder tumors in the second generation may be attributable to exposure of the young before birth (*in utero*) as a result of maternal ingestion of saccharin.

It must be stressed that the dose used in this study exceeded average human exposure by at least 800 times, based on consumption of one 12-ounce bottle of "diet" soft drink per day. No cases of human cancer attributable to saccharin have been identified. Action to restrict the use of saccharin by the general public is being taken, however, as a precautionary measure, in the interest of prudence. This decision recognizes that saccharin may be of value for certain well-defined segments of the population such as diabetics.

To the department's knowledge, no country has moved previously to withdraw saccharin from the market because the experimental evidence on its safety has not been clear-cut until the present time. The bladder tumors observed in the Canadian study

ve been reviewed by an international committee of othologists. Accordingly, the results, expressed as a nsensus of opinion, have been conveyed to health encies of other countries for their consideration.

History of Saccharin

Saccharin was first synthesized by the U.S. chemist onstantin Fahlberg in 1879. Its potential as a sweet- ing agent was quickly recognized and it soon was ed as a substitute for sugar in candies and bakery oducts. Since that time the use of saccharin has in- eased gradually, both in the formulation of low orie foods for dietetic use and in the formulation x foods for diabetics, who must regulate their carbo- drate intake.

Status of Saccharin in Other Countries

Saccharin is used as a food additive in various die- tic foods and beverages in most parts of the world. he Joint FAO/WHO Expert Committee on Food dditives indicated in 1967 that a safe level of sac- charin intake for the rat was 500 mg/kg/day. An un- ditional ADI (Acceptable Daily Intake) for man as estimated to be 5 mg/kg body weight while a ditional ADI, applicable for dietetic foods only, of - 15 mg/kg body weight was established. The cceptable Daily Intake is an expression of the ount of a substance which may be consumed with- ut apparent adverse effect, each day of the entire ie span.

History of Canadian Regulation of Artificial Sweet- ners

Saccharin and cyclamate mixtures and their com- mercially available salts have been used in calorie- ed foods in Canada for many years under pro- sions of the Food and Drugs Act and Regulations. hese foods must bear a label indicating they are low gar or low calorie products. Cyclamates were ed from foods in 1969, but have remained vailable for sale as a drug product.

About 450,000 lbs. of saccharin are consumed nually by Canadians. One of the greatest uses of accharin is in so-called "diet" soft drinks. The ount of saccharin in these drinks varies, but the aximum is about 15 milligrams (0.015 grams) per uid ounce.

Purity of Commercial Saccharin

In recent years, it has been recognized that min- te concentrations of impurities in chemical products ay be responsible for inducing toxic effects ori- nally associated with the chemical product itself. It s therefore important to determine the potential oxicity, as well as the nature and amounts of any mpurities present in chemical products, to which humans may be exposed.

The best known and most widely used process for he manufacture of saccharin is the Remsen-Fahl-

berg procedure. Studies performed at the HPB have identified several impurities in saccharin manufactur- ed by this method. A chemical known as ortho- toluenesulfonamide (OTS), was found to be the major impurity in a series of saccharin samples, vary- ing in concentration from 57 to 6100 parts per million (ppm). The presence of OTS in some samples of sac- charin has necessitated studies on the safety of this impurity, as described below. In the last few years improved manufacturing procedures have markedly reduced the amounts of the impurities present in Remsen-Fahlberg-produced saccharin.

Another method of saccharin production, the Mau- mee process, has been known for many years, but only about 5 to 10 percent of the saccharin in North America was produced by the method until recently. Presently, all of the saccharin produced in North America is synthesized by the Maumee process. An intensive investigation was undertaken at HPB to determine the nature of impurities in saccharin pro- duced by this process. Preliminary results indicate that the level of OTS is less than 0.2 ppm. However, the results of the study released today indicate that OTS does not have a cancer-causing effect, but that saccharin itself, does have such an effect.

Biological Studies with Saccharin

Recent metabolic studies, including investigations at HPB, have shown that ingested saccharin is readily absorbed and rapidly excreted via the kidney in man and experimental animals. Animal studies of tissue distribution have indicated that saccharin tends to concentrate in some tissues, particularly in the urin- ary bladder wall following repeated exposure, but rapidly leaves the tissues when saccharin is removed from the diet. In animals, saccharin crosses the pla- centa rapidly but only to a limited extent. Clearance of saccharin from fetal tissues appears to be slower than from maternal tissues. Conversion of saccharin to other compounds occurs to a very limited extent, if at all, in man and in experimental animals.

Reproductive and teratogenic studies have been performed in several species but no consistent ad- verse effects attributable to saccharin have been ob- served. Saccharin also has been tested for mutagenic activity with conflicting results. One possible reason for the conflicting results may be the source of sac- charin used and the nature and concentration of im- purities it contained.

During the past decade a number of long term feeding studies were conducted in various countries in which saccharin was administered to rats, mice, hamsters and monkeys at various levels ranging from 20 to 2500 mg/kg body weight/day for periods of 14 months to lifetime. In most studies, no significant evidence was obtained indicating that saccharin pro- duced bladder tumors. However, in two recent U.S.

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University of British Columbia
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studies in which rats were given high doses of saccharin (5% or 7.5% of the diet), bladder tumors were observed. The saccharin used in these two studies was manufactured by the Remsen-Fahlberg procedure and contained a high level of OTS. The duration of feeding was extended in these studies through the second generation. Bladder tumors were found almost exclusively in second generation male animals whose mothers had received saccharin during pregnancy. Unfortunately, it was not possible to determine whether the tumors observed resulted from the ingestion of saccharin itself or the OTS impurity.

Toxicity Studies at HPB

In 1972 the H.P.B. initiated a study in which groups of 60 male and 60 female weanling rats were fed diets containing sodium saccharin to provide doses of 0, 90, 270, 810 and 2430 mg saccharin/kg/day. The saccharin used in this study was produced by the Remsen-Fahlberg procedure and contained 100 ppm OTS. The animals were treated for a period of 26 months. Saccharin administration did not cause bladder cancer although high doses were associated with reduced body weight in both sexes and decreased longevity in male rats.

A second chronic feeding study involving both first and second generation animals was initiated in February, 1974, to evaluate the toxicity and carcinogenicity of OTS and OTS-"free" saccharin produced by the Maumee process.

Groups of 50 male and 50 female rats received diets containing one of 3 dose levels of OTS (2.5, 25 and 250 mg/kg/day), or 250 mg OTS/kg/day plus 1% ammonium chloride (NH₄Cl) in the drinking water while another group received 2500 mg sodium saccharin/kg/day. The NH₄Cl was added to the drinking water of one OTS group to produce a more acidic urine, which decreases the production of bladder stones, thought by some to be associated in the rat with bladder cancer. This study has now progressed to the point where valid appraisal regarding bladder tumor incidence can be made. An expert panel of pathologists has reviewed the bladder tumors and their consensus diagnosis shows that OTS did not produce cancer, but a high dose of saccharin, free of OTS, caused cancerous tumors in the urinary bladder.

Thus, in three studies, saccharin ingestion has been associated with bladder tumors. In the two U.S. studies mentioned previously, the saccharin was produced by the Remsen-Fahlberg procedure, and contained significant amounts of the OTS impurity. In the HPB study, the saccharin used was manufactured by the Maumee process and was free of OTS. It was evident, therefore, that saccharin itself, and not the OTS impurity, must be considered as the agent which caused the bladder cancers.

Health and Welfare Canada

NUTRITION CANADA REPORT ON FOOD CONSUMPTION PATTERNS

The **Nutrition Canada Food Consumption Patterns Report** examines the consumption of selected food groups and their contribution to the nutrition of seven age groups, pregnant women, Indians and Eskimos. It also considers regional and seasonal differences. While on the average Canadians are consuming a good variety of foods as advocated by Canada's Food Guide, several recommendations are made in respect to certain groups.

Findings

The main findings reported are:

1. 40 per cent of the total caloric intake came from fat and 13-14 per cent from protein;
2. 7 per cent of the total caloric intake came from high-sugar foods;
3. Intake of dairy products decreased with age and was insufficient to meet the calcium requirements for elderly men, adolescent and pregnant women;
4. Consumption of meat, poultry, fish and eggs increased with age, with a peak in the 20-59 year age group and a decline after 40 years of age;
5. The mean intake of vitamin C was well above recommended levels;
6. Few infants were breast-fed and baby foods, mainly cereals, were fed to them at an early age with most receiving a wide variety of commercial baby foods before they were two months old;
7. Pregnant women reported food patterns similar to those of 20-39 year-old women, with only modest increases in milk and fruit consumption. Calcium intake was lower than recommended. Most reported the use of vitamin and mineral supplements;
8. People in the Atlantic region consumed more margarine than butter, more evaporated milk, potatoes and less fruit than those in other regions;

9. In Quebec there was a higher intake of high-sugar foods and soft drinks and a lower consumption of dairy products;
10. Potato consumption was lowest in the Pacific region;
11. Indians consumed less milk, fruit and vegetables and more meat, fish, poultry and cereal products than the national population;
12. Eskimos had a higher mean consumption of the meat groups, particularly fish and wild game, than the national and Indian populations, but their mean consumption of all other food groups, except high-sugar foods, beverages and soft drinks was lower.

Recommendations:

The report recommends that:

1. Adolescent and adult females and elderly males should increase their consumption of dairy products since their calcium intakes were below recommended levels;
2. The percentage of calories obtained from fat should be lowered. This could best be achieved by reducing the consumption of high fat meats since butter and margarine provided only 5-8 percent of total caloric intake;
3. Those age groups with low thiamin and iron intakes should increase their consumption of cereal products;
4. During pregnancy, greater emphasis should be placed on increased consumption of dairy products, fruit and vegetables in order to increase the intakes of calcium and folic acid. With a greater increase in the consumption of milk, the use of vitamin and mineral supplements except for iron and folic acid, would be unnecessary.

Note: A summary report is available to the public on request, from Educational Services, Health Protection Branch, 255 Argyle Street, Ottawa, Ontario, K1A 1B7.

RECOGNITION AND TREATMENT OF PERIODONTAL EMERGENCIES

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The prevalence of periodontal disease is close to 100 per cent when deviation from absolute health is used as the criterion. The severity of the disease may vary from population to population, but the prevalence does not appear to be influenced by age, sex or socio-economic status. Pre-existing periodontal disease predisposes to periodontal emergencies such as acute necrotising ulcerative gingivitis, or can manifest as one, such as periodontal abscess. The management of periodontal emergency conditions must therefore include complete periodontal assessment and treatment. Indeed, treatment must continue as long as periodontal deformities remain and until the underlying contributory factors have been corrected.

Although dentists may be confronted with other acute gingival infections, this article is limited to a discussion of acute necrotising ulcerative gingivitis, acute herpetic gingivostomatitis, periodontal abscess and pericoronitis. Features that are significant in making a differential diagnosis are described in each instance. Interested readers desiring further information may pursue their inquiry through the cited references.

Acute Necrotising Ulcerative Gingivitis

Acute necrotising ulcerative gingivitis, (ANUG), also known as Vincent's infection or Trench Mouth, is a common periodontal emergency in the dental office. Formerly regarded as highly contagious on account of its occurrence in the French army, ANUG is now considered to be bacterial in origin but not contagious. It may occur as an acute or chronic condition. The acute phase leads the patient to seek attention, whereas the chronic state is often detected during a routine periodontal examination.

In North America, it characteristically afflicts young adults primarily in the 16-30 year age group. Pindborg and Emslie found in India and Nigeria respectively, that a significant number of patients with ANUG were under 10 years of age.

Although it is generally agreed that bacteria are involved in the aetiology of ANUG, opinions differ as to whether or not they are the primary causative factor. Spirochaetal organisms and *Bacillus fusiformis* are always present, suggesting a fusospirochaetal aetiology. This apparent cause and effect relationship is, however, complicated by the fact that fusospirochaetal organisms are also present in the bacterial flora characteristic of chronic destructive periodontal disease. Current opinion holds that ANUG is a fusospirochaetal disease which requires underlying tissue changes resulting from pre-existing gingivitis, psychologic stress, heavy work load without adequate rest or debilitating respiratory infections, to facilitate the pathogenic activity of the bacteria. ANUG is therefore quite common in students during examination times and in the army recruits soon after induction.

The major complication of ANUG is destruction of the supporting periodontal tissues. Cancrum oris or noma is a frequent sequel seen in severely undernourished Nigerian children.

Diagnosis often can be made on the basis of the history and clinical findings. The former reveals a sudden onset with bleeding and soreness of the gums, usually following an episode of debilitating disease, upper respiratory infection, or a change in living environment. The clinical findings include punched out, crater-like destruction of the interdental papillae; a pseudomembrane in the involved area; characteristic foetid breath; and very tender gingiva which bleeds on slightest provocation (Fig. 1a, b, c). Systemic signs, when present, include slightly elevated temperature, regional lymphadenopathy, general malaise and pain.

Though ANUG has clear distinguishing features, it may be confused with acute herpetic gingivostomatitis and desquamative gingivitis. The former usually occurs in children under 6 years of age but may also be seen in older children and young adults. This infection has more diffuse involvement of the gingiva with erythema and vesicular eruptions which leave spherical ulcers. Necrosis of the interdental papillae is not a feature. Desquamative gingivitis, on the other

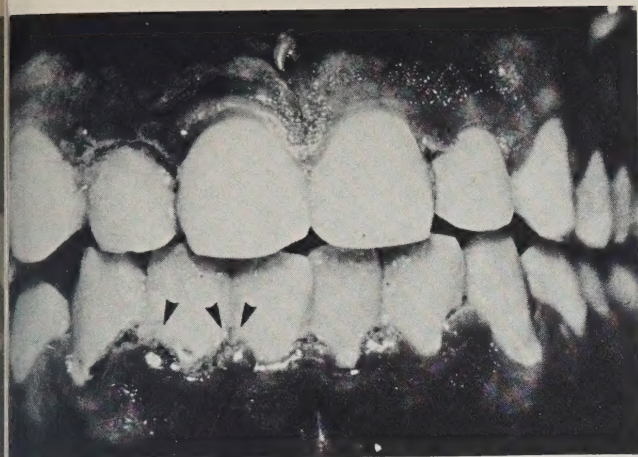


Fig. 1a: Acute necrotising ulcerative gingivitis in an 18-year-old patient. Observe destruction of papillary tissue resulting in crater formation. The presence of pseudomembrane masks the characteristic stippled appearance of the gingiva.

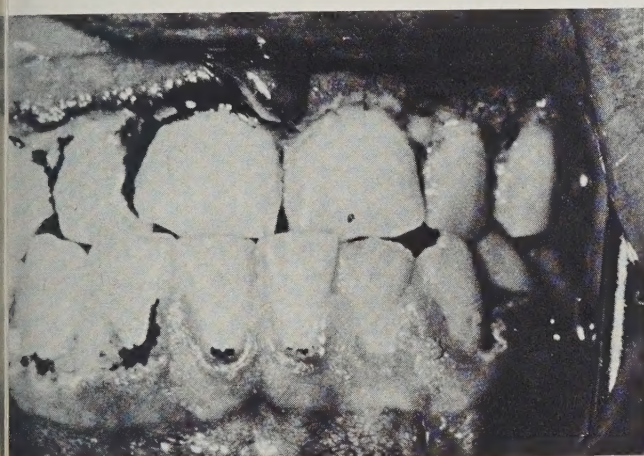


Fig. 1b: Progressive destruction of the interdental gingiva can be seen in the anterior areas of this 17-year-old patient. The gingiva is tender and bled readily. The patient had ANUG of two days' duration.

and, afflicts older patients, especially menopausal women, and is accompanied by gingival desquamation. The disease may have a prolonged history. Desquamative gingivitis may also be a manifestation of lichen planus or pemphigoid.

Treatment of ANUG should be undertaken in two stages: treatment of the acute state and corrective treatment.

Treatment of the Acute State

Debridement of the necrotic accumulation and removal of coronal irritating factors are the first steps. This should be done with an ultrasonic scaler. Curettage and deep scaling should not be attempted at the first appointment.

An oxygenating mouth wash should be prescribed: 3 per cent hydrogen peroxide diluted half and half with water, or a sodium peroxyborate (Amosan) solution may be used for rinsing four times daily.

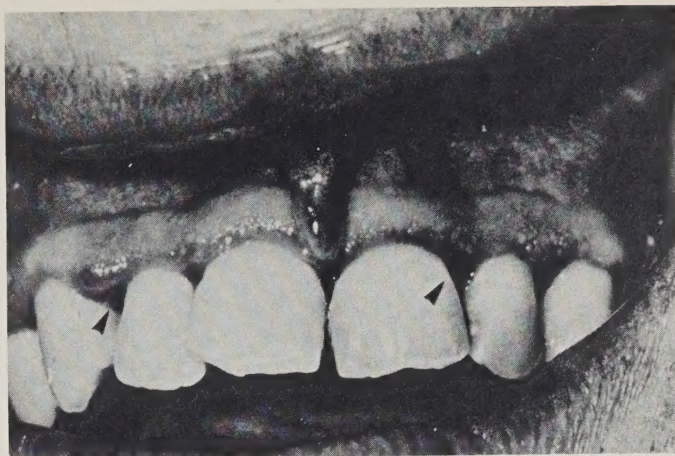


Fig. 1c: Same patient as in Fig. 1b, three days after coronal debridement and instruction in oral hygiene. Improvement is remarkable, however soft tissue deformities remain. Patient will need gingivoplasty, otherwise will have a chronic condition.

3. The patient should be instructed in good oral hygiene and encouraged to use an extra soft tooth brush. Dental floss should be introduced at the second appointment.
4. Antibiotics are prescribed if there is an elevated temperature or regional lymphadenopathy. Penicillin V, 300 mg four times daily for four days is the drug of choice. If the patient is allergic to penicillin, erythromycin, 250 mg four times daily for four days, may be used.

Symptomatic recovery usually occurs within two to three days. The patient should be seen 48 hours after the initial appointment for scaling and curettage. Unfortunately, many of these patients are notorious for not returning for follow-up therapy. If they do return, a thorough periodontal examination should be performed and the patient should be informed of the necessity of further therapy.

Corrective Treatment

It is critical that the patients recognize the importance of follow-up treatment. If periodontal deformities result from ANUG, lack of further treatment will inevitably lead to recurrence. Corrective therapy may include gingivoplasty or flap surgery with osseous correction, depending upon the severity of the ANUG and the resultant periodontal destruction.

Acute Herpetic Gingivostomatitis

This acute inflammatory condition is a painful, vesicular infection of the oral cavity. The disease usually afflicts children under 6 years of age. It is caused by herpes simplex virus and spreads by direct contact. Exposure to the virus results in formation of neutralizing antibodies. After recovery, the antibody remains at a detectable level thus conferring partial immunity. Recurrent episodes are either attenuated or aborted; however, both primary and recurrent herpetic gingivostomatitis may occur in adults.

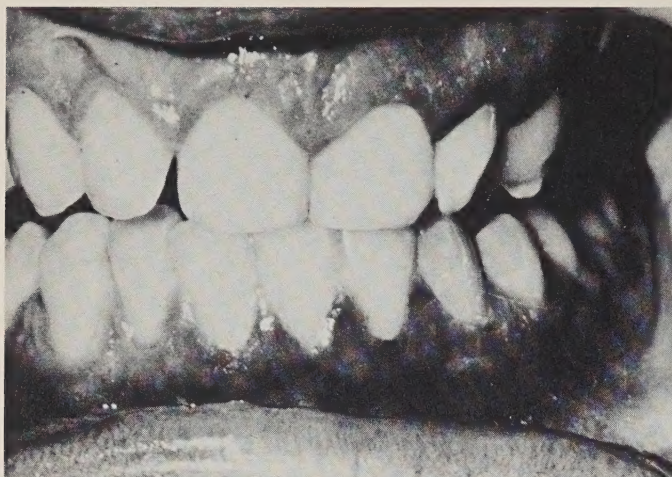


Fig. 2a: Acute herpetic gingivostomatitis in a 12-year-old. Gingiva exhibits diffuse involvement without destruction of the interdental tissue (See Figs. 1a and 1b). Lack of stippling results in a shiny gingival surface.

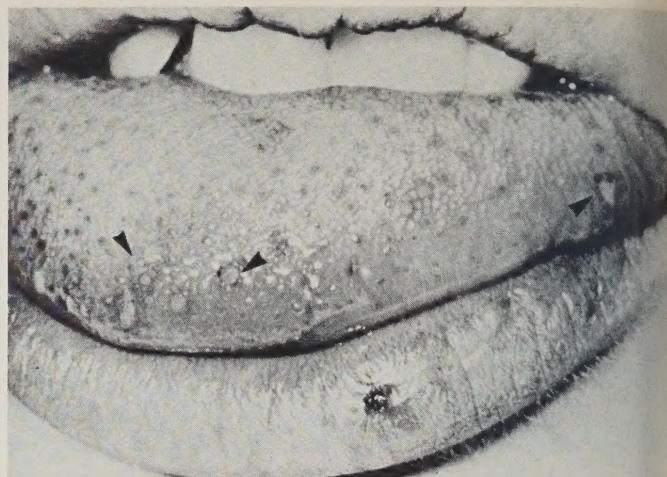


Fig. 2b: Intact and ruptured spherical vesicles can be seen on the tongue.

Diagnosis can usually be made on the basis of the history and clinical signs. The history generally reveals a fever, malaise and regional lymphadenopathy preceding the onset of oral symptoms by about four to five days. The oral lesions then appear and may continue to appear for four days. The disease is self-limiting and subsides within 10 days.

The oral lesions are erythematous with shiny inflammation of the gingiva, and the formation of discrete spherical greyish vesicles which may appear on gingiva, buccal mucosa, the soft palate, floor of the mouth and pharynx. Extra-oral lesions may be seen on the lips. The vesicles rupture to form painful ulcers which may coalesce (Fig. 2a, b, c). Healing without scar formation takes place within one to two weeks.

Systemic findings include an elevated temperature of 38-40°C (100-104°F) and generalized malaise preceding the onset. The usually affected age group differentiates primary herpes from ANUG. However, a differential diagnosis must also include erythema multiforme, lichen planus, pemphigus vulgaris and infectious mononucleosis.

Being a viral condition, there is no known cure for acute herpetic gingivostomatitis. The treatment consists of palliative measures to tide the patient through the course of the disease. The following are suggested:

1. Gentle coronal debridement to reduce gingival inflammation. In very severe cases, debridement is delayed until the acute phase subsides.
2. Copious intake of fluids to counter dehydration.
3. A soft, bland nutritious diet.
4. Rinse with an obtundent mouth wash to relieve pain before meals. Chloraseptic (Eaton Laboratories, Paris, Ont.) or dyclonine hydrochloride 0.5 per cent diluted half and half with water may be helpful for this purpose. As an alternative, the

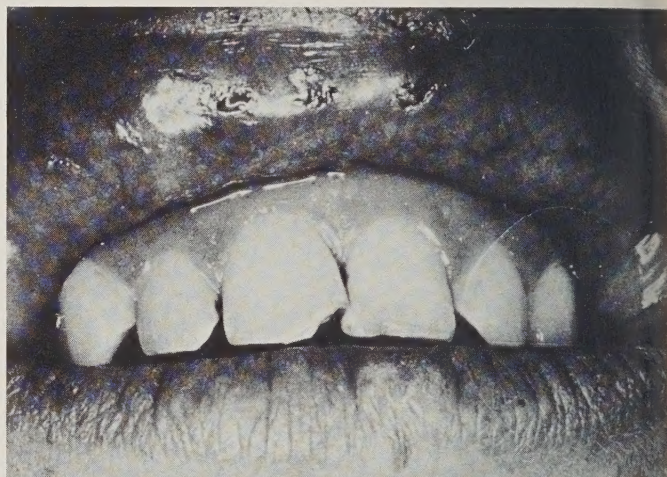


Fig. 2c: Recurrent herpetic ulceration. Typical herpetic vesicles and ulcers can be seen on the upper lip.

following prescription may be used:

Benzocaine N.F. 5.0 Gm

Almond oil N.F. 2.0 ml

Tragacanth powder 2.0 Gm

Peppermint water q.s. ad 100 ml

Rinse with a few drops in 115 ml (4 oz.) of water before meals.

5. Chlortetracycline (Aureomycin) 250 mg four times daily for five days, to combat possible secondary infection. Tetracyclines are contraindicated in very young children and should be used with caution in children between the ages of 8 and 12 years.
6. Acetylsalicylic acid, 2.5-5 mg for older children and 10 mg for adults three times daily, to relieve pain.

Periodontal Abscess

Periodontal abscess is an acute exacerbation of a chronic periodontal pocket. It can be a purulent

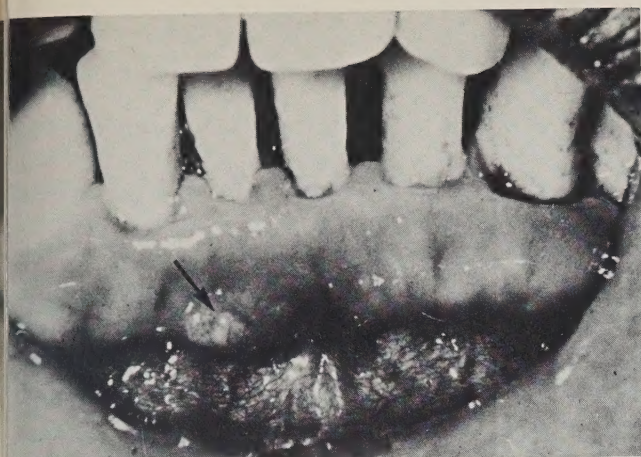


Fig. 3a: Periodontal abscess formed three days after coronal bridement in a 10 mm pocket. The gingival sulcus opening is blocked as result of shrinkage of marginal gingiva following healing.

Inflammation of the soft tissue wall of a periodontal pocket, giving rise to a gingival abscess, or the supporting tissues, giving rise to a true periodontal abscess.

Glickman suggests the following possible mechanisms of abscess formation:

- Lateral extension of inflammation from the periodontal pocket into the connective tissue of the pocket wall.

- Deep extension of infection from a periodontal pocket into the supporting tissues.

- Blockage of the opening of a pocket that describes a tortuous course.

- Incomplete removal of calculus, causing the gingiva to shrink thereby occluding the orifice of a deep pocket.

- Trauma to the tooth or iatrogenic perforation of the lateral wall of the root during root canal therapy.

The dental history may include tenderness of the gingiva, pain upon tooth movement, looseness of the involved tooth and occasionally, fever and malaise. Clinical examination reveals an ovoid elevation of the gingiva with a red, shiny surface. Depending upon the progress of the disease, the swelling may be firm or soft and fluctuant. The orifice of a fistulous tract may be seen draining pus. The tooth generally is vital. Radiographic change, if any, manifests as a radio-lucent area along the lateral aspects of the root (Fig. 3a, b).

Although the diagnosis usually is clear cut, careful exploration should be made to locate the underlying focus as an abscess forming on one surface of the tooth does not necessarily drain on the same surface. Differential diagnosis should include periapical abscess. Negative responses to various pulp tests, more apical fistula formation and radiographic changes in the periapical area would suggest a periapical abscess.



Fig. 3b: Radiographic appearance of an abscess.

As periodontal abscess formation results from existing periodontal disease, it follows that treatment must be carried out in two stages: emergency treatment and corrective treatment.

Emergency Treatment

If the swelling is firm and has not pointed (subacute abscess):

1. Prescribe an appropriate antibiotic. Penicillin is usually the drug of choice. If penicillin is contraindicated, prescribe tetracycline 250 mg four times daily for four days.
2. Commence preventive periodontics.
3. Advise rest, copious fluid intake and a soft diet.

A subacute abscess may heal by regeneration without causing periodontal damage. If the swelling is fluctuant (acute abscess) the following treatment is suggested:

1. Isolate the area and clean it with an antiseptic solution.
2. Apply a topical anaesthetic. Ethyl chloride spray or 5 per cent lidocaine ointment can be used.
3. Locate the most fluctuant part of the abscess.
4. With a Bard-Parker No. 15 blade, make a horizontal incision across the abscess, penetrating the periosteum down to the bone. If the abscess is below the embrasure space, a vertical incision is preferred.
5. Allow the pus to drain and assist in evacuating the pus by applying firm digital pressure in areas adjacent to the abscess.
6. Open up the incision by means of a periodontal curette and gently curette the area.
7. Irrigate the area with 3 per cent hydrogen peroxide followed by normal saline.

8. Relieve heavy occlusal contacts.
9. Prescribe a mouth wash using hydrogen peroxide 3 per cent diluted half and half with water, three to four times daily.
10. Prescribe antibiotics if signs of systemic toxicity are present.
11. Prescribe analgesics to control pain.
12. Instruct the patient in the proper use of the tooth brush and dental floss.

Corrective Treatment

In virtually all cases, treatment of a periodontal abscess is incomplete without control of the underlying causative factor, namely the periodontal pocket. Follow-up treatment therefore is essential. It is similar to the treatment for the eradication of periodontal pockets, with two exceptions:

1. The bone destruction that results from an acute periodontal abscess may be reversible as against the irreversible bone loss of chronic destructive periodontal disease. Therefore, approximately six weeks should be allowed for regeneration of alveolar bone following incision and drainage. Also, as the result of surgery, further osseous regeneration should be expected and allowance made for it in the surgical procedure.
2. In cases where recurrent abscesses form adjacent to or from the furcation areas, occlusal factors must be removed. Periodontal pockets involving the furca, in the presence of traumatic occlusion, become more susceptible to formation of abscess.

Routine periodontal procedures aimed at eradication or control of existing periodontal disease thus complete treatment of the periodontal abscess.

Pericoronitis

Inflammation of the gingiva and contiguous soft tissue around the crown of an incompletely erupted tooth is termed *pericoronitis*. Mandibular third molars are the most likely site for its development, however, this condition may also develop around any partially erupted tooth. Generally, the flap of tissue or operculum overlying an unerupted tooth is inflamed and its undersurface ulcerated. This inflammation stems either from physical trauma or the activity of bacteria. The inflammatory process can extend distally, making diagnosis and treatment difficult. Trismus, peritonsillar abscess formation and cellulitis may result if this inflammation is not checked. Regional lymphadenopathy, fever and malaise may also be present. Treatment depends upon the severity of the condition.

Acute Pericoronitis or Pericoronal Abscess

1. Gently remove the debris and exudate from under the flap by lavage and curettage. Hydrogen peroxide 3 per cent can be used to irrigate the area using a blunt syringe. Warm saline should be used copiously to clean the area.
2. If a fluctuant abscess is present, apply a topical anaesthetic and incise with a Bard-Parker No. 15

blade in a mesio-distal direction. Drain the abscess and leave a ¼ inch piece of iodoform gauze to maintain drainage.

3. If evidence of systemic toxicity is present, an antibiotic should be prescribed.
4. Check the occlusion and ensure that the opposing molar does not contact the soft tissue flap. If necessary, reduce the offending cusps.
5. Instruct the patient to clean the area with an irrigating syringe using hydrogen peroxide 3 per cent diluted half and half with water, followed by a warm saline rinse.

Chronic Pericoronitis

1. Examine to determine whether or not the tooth can be retained. If not, the tooth should be extracted.
2. If the tooth is retained, the operculum should be surgically excised by electrosurgery or a periodontal knife. The area should be covered by a hard periodontal dressing to discourage the tissue from regenerating. The dressing should be removed after three days and the patient given oral hygiene instruction.

The operculum can also be cauterized by application of trichlor-acetic acid followed by hydrogen peroxide or by using methylene blue.

Summary

The recognition, differential diagnosis and treatment of the more common periodontal emergency conditions have been presented. Although emphasis has been placed on immediate therapy, complete management of the patient must always be our ultimate treatment. Follow-up treatment is mandatory in ANUG to prevent recurrence of the disease.

All patients should be given instruction in oral hygiene techniques, including the use of disclosing tablets, tooth brushing and dental floss. The very fact that a patient presents with a periodontal emergency serves as an indication that he requires regular periodontal care.

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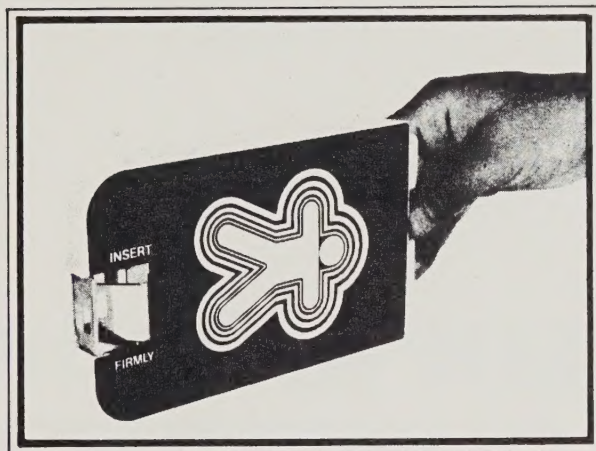
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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

ALL 1977 AUTOMNE

VOLUME 11, No. 3

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$8 per year in Canada and \$10 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$8 par année au Canada et \$10 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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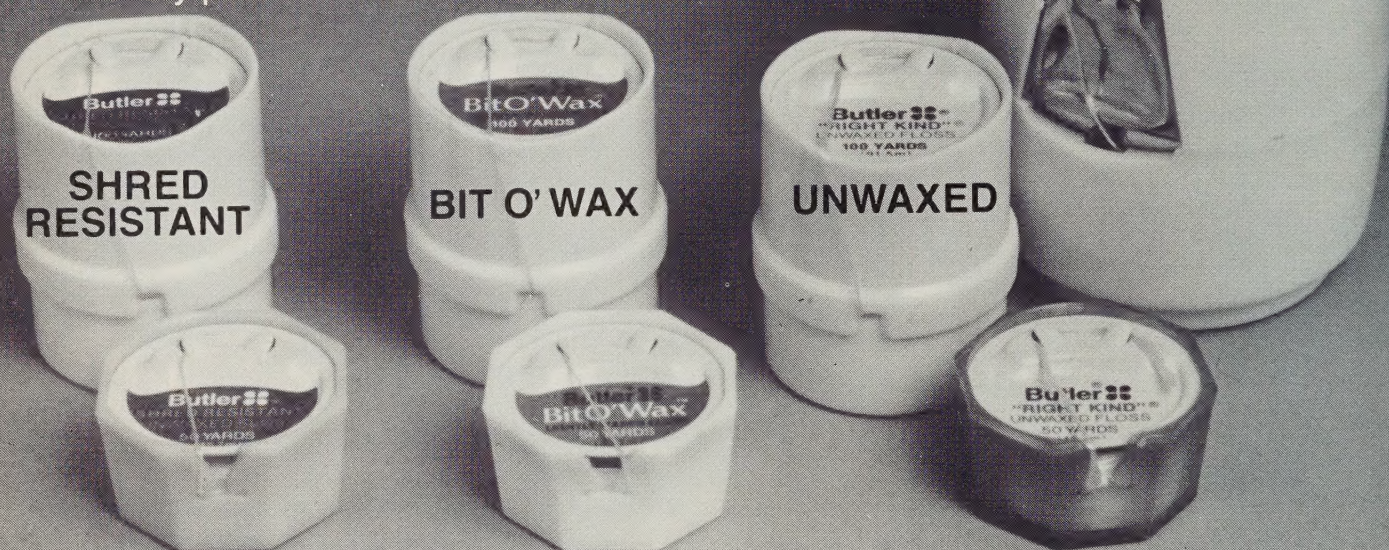


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CANADIAN DENTAL ASSOCIATION REACTS TO GOVERNMENT BAN ON SACCHARIN

The following press release, prepared by Dr. Alexander E. MacLeod, Chairman of the Canadian Dental Association's Council on Information Services, was issued immediately after Health Minister Marc Lalonde's announcement that saccharin would be banned in Canada:

"The Canadian Dental Association is concerned about the consequences of Mr. Lalonde's sudden announcement banning the use of saccharin in Canada. Refined sugar is used as a saccharin substitute, tooth decay is certain to increase in the population. This would put back years of effort by Canadian dentists to prevent decay from starting. Not to mention adding to the cost of treating dental disease both for the general public and the government.

"The ban would also have serious effects for the use of toothpaste and some mouthwashes, which contain a small amount of saccharin to make their taste pleasant. We are unaware of any other safe substitute for saccharin at the present time. Hence toothpaste made without saccharin would be so bitter that it is most unlikely people could use it.

"We suggest that the Canadian Dental Association's committee on therapeutics and government officials consult with representatives of the pharmaceutical industry with a view to devising a solution which will be in the best public interest."

AMERICAN DENTAL ASSOCIATION VOICES CONCERN OVER FDA BAN ON SACCHARIN

The American Dental Association has voiced serious concern over the Food and Drug Administration's proposal to ban saccharin, the only artificial sweetener permitted on the U.S. market.

Public outcry against the proposed ban prompted overnight hearings March 21-22 by the House Sub-committee on Public Health and Environment on the so-called Delaney amendment.

The Delaney amendment apparently requires the FDA to ban agents found to induce cancer when ingested in humans or animals — no matter what the dosage. The FDA recently proposed the ban on saccharin because tests in



At the U.B.C. graduation ceremony on May 31, Mary Bland (centre), past president of the B.C.D.H.A., presented Ellen Stradiotti (left) with the B.C.D.H.A. Book Award for Clinical Proficiency and Louise Dittloff (right) with the B.C.D.H.A. Silver Tray Award. Ellen was also the recipient of the College of Dental Surgeons of British Columbia Gold Medal.

Canada have shown that large doses of saccharin can cause cancer in rats.

In a statement to the subcommittee, the Association declared that the Delaney amendment "is too restrictive and should be modified with substitution of less restrictive, more rational legislation that recognizes human realities and serves human needs.

"It seems both questionable and woefully inappropriate to apply this amendment to saccharin when some 80 years of use in humans have never resulted in establishing a cause and effect relationship between saccharin and cancer.

"Additionally, the massive doses employed in the animal study do not appear to be relevant to the current estimated intake of saccharin by humans."

The Association's statement noted that the marketing of sugarless confections was in part an outgrowth of the dental profession's attempt to restrict the sugar intake of children. Dentists have long been aware of the substantive body of scientific evidence linking frequent intake of sweets with dental decay.

For this reason, the ADA statement points out, "the availability of a non-sugar sweetener for use in food, beverages and drugs which does not promote dental decay is of considerable importance to the dental health of this nation."

Furthermore, artificial sweeteners also are important in the continued

marketing of routinely used drug products such as dentifrices, fluoride preparations and children's vitamins, the statement noted. "Use of sugar in such a product would only contribute to dental decay."

The National Cancer Institute was among the many health organizations which questioned the ban of saccharin. Dr. Guy Newell, acting director of the Institute, testified before the subcommittee that: "Based on human data, the Institute does not believe saccharin is a potent carcinogen for humans, if it is one at all."

UK DENTISTS TACKLE KOJACK ON THE ISSUE OF LOLLIPOPS

Television detective Kojak will no longer suck lollipops in the popular series, according to organizers of a dental health campaign for under eight year olds in London, England.

A spokesman for the British Dental Association recently reported that the Association had made representations to the television network through the American Dental Association and had been assured that the lollipops would be dropped from the series.

Sir Rodney Swiss, president of the General Dental Council, said that advertising of sweets on television did not help the work of the dentist and complained that Kojak and his lollipops had not been very helpful either.

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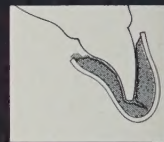
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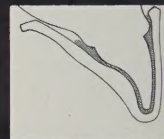
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STUDY FINDS CHILD CARIES AND OBESITY NOT LINKED

There is no correlation between dental decay and obesity in children, a University of Pennsylvania study has ascertained. The study showed that children who have a fondness for sweets do have a greater incidence of caries but that they are not necessarily fatter than other children.

Speaking at the 55th general session of the International Association for Dental Research, Dr. Irwin I. Ship, director of the study, said that the investigation involved 2,300 rural elementary school children. The children's height, weight, and triceps skinfold thickness (a precise measure of obesity) were measured when the pupils received their early oral examinations.

The average age of the children was 7 years and 15% were obese. The children had an average of eight decayed tooth surfaces among deciduous teeth and five decayed surfaces among permanent teeth.

Dr. Ship commented that although the frequency of both tooth decay and obesity was high, there was no correlation between skinfold thickness and the amount of dental plaque.

When the children were assigned to obese and normal groups, it was found that obese children had no more decay than the average than did those of normal weight.

To investigate the relationship between diet preferences and disease more directly, a sample of 300 of the 2,300 children were permitted to choose and to keep a snack from a board displaying fruit, salty foods such as peanuts and potato chips, and sweet, sticky foods like chocolate cake and candy.

The children who chose salty snacks had considerably less tooth decay than those who selected sweet snacks, but there was no significant relationship between snack choice and skinfold thickness.

"The findings indicate that preference for sweet foods is more closely related to tooth decay than to obesity," Dr. Ship said. "Further, the findings do not support the belief that obesity in children is due to increased consumption of sucrose-containing foods."

Other members of the investigative team were Dr. Michael F. Miller and Aaron H. Katcher, PhD, a behavioral scientist.

XYLITOL-BASED CHEWING GUM INHIBITS CARIES DEVELOPMENT

Research conducted at the University of Chicago by Dr. Thomas Graber, chairman of the university's orthodontics department at the Zoller Dental Clinic, has shown that consumption of a xylitol-

based chewing gum effectively inhibits caries development.

Dr. Graber reported that xylitol, a natural sugar alcohol found in certain fruits, mushrooms and leaves, has a marked stimulating effect on the flow of saliva. Xylitol starts a metabolic breakdown in the stomach, rather than the mouth, and therefore does not stimulate caries development.

Dr. Graber will head a year-long research project to study the effects of long-term chewing of xylitol-based chewing gum beginning in July, 1977. Graber predicts a 90 percent reduction in a child's caries.

Dr. Graber's pilot study stemmed from the two-year research of two Finnish professors who discovered that xylitol helped reverse early stages of dental decay in regions where there was no fluoride in the drinking water. The Finnish studies resulted in an overall decrease of 38 percent in the amount of plaque in those patients chewing a xylitol-based gum as compared to those chewing a sucrose-based gum. The studies concluded that a xylitol-based gum would control dental plaque formation and reduce caries. In addition, the studies suggested that the non- and anti-cariogenic properties of xylitol principally depended on its lack of suitability for microbial metabolism and on the physico-chemical effects in plaque and saliva through low and repeated dosages of xylitol.

ADA LISTS NEW, REVISED EDUCATIONAL MATERIALS

Multiple copies of a variety of new and revised dental health education materials for dental offices and schools are now available from the American Dental Association's Order Section.

The ADA Bureau of Dental Health Education's newest brochure entitled *Caring for your Handicapped Child's Dental Health* outlines a variety of adaptive techniques which parents and teachers can use to maintain good oral health in dependent children. Developed in cooperation with the Academy of Dentistry for the Handicapped, the brochure alerts parents and teachers to the special dental health needs and problems experienced by handicapped children.

Earlier this year, the Bureau produced a pamphlet discouraging vending of sweet snacks in schools entitled *Are You Selling Tooth Decay?* The pamphlet explains why sweet snacks are harmful to students' dental health and offers a variety of non-sugar options for vending machines and fund-raising activities.

Two activity books that provide dental health education for young children are new from the Bureau: *The ABC's of Good Oral Health*, a coloring book, and *Casper the Friendly Ghost's Dental Health Activity Book*.

Other new and revised materials include: *I'm Going to the Dentist*, a child's introduction to the dental office; *Care of Children's Teeth*, a comprehensive digest of children's dental health care for parents; *Halloween Handout*, the dangers of sweet snacks; *Keep Your Teeth All Your Life*, and *What to do After the Extraction of a Tooth*.

Single sample copies of each of the above dental health education materials are available from the ADA Bureau of Dental Health Education. Multiple copies are on sale from the ADA Order Department, 211 E Chicago Ave., Chicago, 60611. Full remittance must accompany all orders.

Price formulations and ordering code for each are listed below:

G1 — *I'm Going to the Dentist*: (25) \$4.95, (100) \$18.80, (500) \$89.00;
G20 — *What to Do After the Extraction of a Tooth*: (100) \$3.65, (500) \$17.20;
G31 — *Care of Children's Teeth*: (25) \$7.15, (100) \$27.20, (500) \$128.70;
G33 — *Keep Your Teeth All Your Life*: (25) \$2.35, (100) \$8.95, (500) \$42.30;
G46 — *Casper Activity Book*: (25) \$5.50, (100) \$20.90, (500) \$99.00;
G48 — *The ABC's of Good Oral Health Coloring Book*: (25) \$5.65, (100) \$21.40, (500) \$101.35;
P30 — *Halloween Handout*: (100) \$3.45, (500) \$16.40;
P31 — *Are You Selling Tooth Decay?*: (25) \$1.25, (100) \$4.70, (500) \$22.35;
S6 — *Caring For Your Handicapped Child's Dental Health*: (25) \$7.60, (100) \$28.75, (500) \$136.20.

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DECLINE IN DENTURE WEARERS

The percentage of Americans wearing dentures is dropping dramatically, according to new survey research data first released by the American Dental Association. This finding was called important by the executive director of the American Dental Association because "it means that public health is responding to advances in preventive and restorative dental care."

Dr. C. Gordon Watson of Chicago said, "Long-term efforts by the dental profession to eliminate needless loss of teeth are yielding results. Emphasis on preventive procedures in the dental office and self-care at home have led to a drop in the segment of the population wearing one or two complete dentures — from 35.2 per cent of the 30-and-older group in 1960 to 24.7 per cent of that same age group in 1975."

The 1975 comparison is part of a recent report from the ADA Bureau of Economic Research and Statistics. "The percentage decline in denture wearers will no doubt continue, perhaps even more rapidly, in the years immediately ahead," Dr. Watson said.

"Community water fluoridation, the best overall preventive known for tooth decay, was introduced about 30 years ago," he explained. "That means that the very first youngsters to have benefited from water fluoridation from birth are now beginning to enter that 30-and-older group. As more of the first 'Fluoride generation' fill the 30-and-older group, we should see in the years ahead of us a highly satisfying impact on the number of denture wearers."

The dental leader said that denture care often presents some of the most difficult problems in dental practice. Further, ill-fitting dentures, the result of long-term neglect or unskilled care, can cause serious health problems, even permanent, irreversible damage to the mouth," he said.

Dr. Watson expressed concern about current efforts by some untrained illegal operators to "sell" dentures without concern either for the health aspects of the service or the necessity of having a license to practice dentistry. "Their illegal activities threaten injury, particularly to persons who can least afford it — the elderly on fixed incomes and the poor," he said.

"The decline in percentage of denture wearers aside, there are still many persons who are easily taken in by 'Bootleg' operators," Dr. Watson said. "The dental profession is concerned that we may see a rise in the serious problems that inadequate denture care can cause: destruction of bone needed to support a denture, oral abrasions, bruises, inflammation and overgrowth of soft tissues, disturbances of the joints

of the jaws and speaking and eating difficulties.

SHORT-TERM EXTENSION TO PERMITTED USE OF SACCHARIN

Health and Welfare Minister Marc Lalonde has agreed to requests from Canadian food manufacturers for short-term extensions to the permitted sale of foods and beverages containing saccharin. The Government has agreed to allow the sale of soft drinks, beverage mixes and beverage bases containing saccharin until October 1, 1977 and of other foods containing saccharin until December 31, 1977.

A short-term extension also has been granted to permit the continued sale of saccharin alone or in combination with cyclamate outside of pharmacies, until February 1, 1978. Products in this category include the so-called table-top sweeteners, used primarily to sweeten hot beverages. Under Canadian regulations, saccharin will continue to be available in pharmacies after this date, as a non-prescription drug, for use by diabetics and others who must restrict their intake of sugar.

The new dates take into account economic adjustment problems which could not have been foreseen when action to control saccharin first was announced. The soft drink industry has encountered unforeseen difficulties in obtaining fructose syrup, a natural sweetener which most will use to produce calorie-reduced soft drinks. Fructose suppliers require more time to respond to increased demand. Provision of a short-term extension, during which time saccharin-containing soft drinks may continue to be sold, will permit a smooth transition by the soft drink industry to calorie-reduced products, and thereby reduce economic dislocation within the Canadian industry, including potential loss of jobs for employees.

Extension of the phase-out periods for saccharin in other foods will provide time for evaluation of new, industry-sponsored data on the safety of alternative artificial sweeteners currently not permitted in food products. It now appears additional data will become available towards the end of 1977, several months earlier than had originally been anticipated.

Any decision to extend the phase-out period for saccharin must attempt to balance possible long-term adverse effects of saccharin on health against the short-term dislocation to the food and beverage industries and their employees brought about by action to restrict saccharin use. Short-term extensions to the phase-out period seem, on balance, to be justified. The Canadian

Soft Drink Association has provided assurance to the Federal Government that its members will not take advantage of the extension through promotional and advertising support of saccharin based products.

REPORTS ON HIGH SUICIDE RATES AMONG DENTISTS PROVED WRONG BY NEW STUDY

News media stories stating that dentists have a high suicide rate are refuted in a comprehensive new study of thousands of dentists' death certificates. The study was described in detail in the January 31 issue of the American Dental Association's Leadership Bulletin.

The results showed that during 1960-65, dentists had a composite death rate from all causes for each age group that was less than that of the U.S. male population — approximately two-thirds. And most importantly, deaths from suicide were not significantly different from that of the general white, male population.

The study, which is being prepared for publication, identified deaths during the six-year period within a total dentist population of 102,700. Death certificates were obtained for all but 259 of the 8,945 known dentist deaths within that period. The vital status was determined for all but 1,370 or 1.3 per cent of the remaining dentist population at the end of the study period.

Follow-up procedures included use of obituaries, a national registry, state dental associations, state licensing agencies and state dental examining boards, city directories, the U.S. Post Office mailing list correction service, a commercial credit company and extensive telephone contacts.

The study was conducted by the Health Services Center, Temple University School of Dentistry, under sponsorship and funding of the National Institute of Occupational Safety and Health.

The study confirms the belief that has been held by American Dental Association officials that the news media stories on supposedly high dentist suicide rates have not been based on reliable research. The Association has routinely checked the sources for such stories and invariably has found that they did not support the high suicide rate contention.

Additionally, the Association has the largest group life insurance program in the world. The program, which is almost 40 years old, has a broad base of actuarial experience for dentists and these figures belie the published statements on dentists and suicide.



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CANCER PATTERNS IN CANADA, 1931 - 1974

Cancer is the leading cause of loss of life expectancy for Canadian women and the third most frequent cause for men. Information on cancer patterns in Canada from 1931 - 1974 was recently released by Health and Welfare Minister Marc Lalonde in an extensive epidemiological report prepared by Health Protection Branch. Based on data collected across the country, the report is intended as a cancer reference for health professionals.

Breast cancer, the most frequently occurring type among Canadian women, is responsible for about 3,000 deaths per year and 23 per cent of the loss of female life expectancy due to cancer. Lung cancer, the most frequent type in Canadian men and the third most in women, was responsible for all of the large increase of the cancer death rate for Canadian men during the past 25 years. Cancer of the large intestine ranks second in frequency for both sexes.

The cancer death rate for adult men is lowest in Saskatchewan (184 per 100,000) and highest in Quebec (263); for adult women, the rate is lowest in Saskatchewan (141) and highest in Nova Scotia (188). Similar variations were observed for specific types of cancer. The death rate for lung cancer in men varies from 51 in Saskatchewan to 84 in Quebec and for breast cancer in women from 33 in Newfoundland to 16 in Quebec.

During the period 1964-1974, significant increases in adult death rates occurred for the following types of cancer: a) men - lung, large intestine (except rectum), and total cancer; b) Women - mouth and throat, pancreas, lung and cancers of the immune system. Decreases were observed for the following adult cancers: a) Men - stomach and rectum; b) Women - stomach, rectum, gallbladder, cervix, uterus and bladder. Significant decreases have occurred for brain, leukemia and total cancer in both sexes among persons less than 25 years of age.

RESEARCHERS CLAIM ALEXIDINE REDUCES PLAQUE, GINGIVITIS

In the first published report of a study of the antibacterial drug alexidine, researchers at the University of Alabama in Birmingham (UAB) School of Dentistry have stated that the drug is significantly effective in reducing dental plaque and gingivitis.

UAB School of Dentistry researchers Drs. Thomas Weatherford, Sidney Finn, and Homer Jamison conducted the six-month study of 207 young adults, all of whom had a minimal level of gingivitis.

The study participants were assigned to two groups: members of one group rinsed with the alexidine mouthwash twice daily while the others rinsed with a solution not containing alexidine. Both groups were told to continue their regular brushing and flossing habits.

According to the researchers, throughout the study, plaque and gingivitis levels decreased for the group using alexidine. "Alexidine appears to be a relatively simple and effective means of combating plaque and gingivitis," Dr. Weatherford said.

According to the researchers' report, the only side effect found in the study is alexidine's propensity to produce staining in some of the individuals tested. The researchers said that a brownish stain became evident in some alexidine users after a month of rinsing. However, they claimed that the stain is removable by prophylaxis of teeth.

CANCER AND FLUORIDATION

The following comments by R.M. Taylor, M.D., Executive Director, National Cancer Institute of Canada, refer to Dean Burk, PhD., a biochemist who was an employee for 35 years of the National Cancer Institute and was Head of their Cyto Chemistry Section. Dr. Burk claimed that fluoride as used in fluoridation causes cancer.

"Dr. Burk is NOT qualified as an epidemiologist nor in the field of human cancer. His expertise in these areas has been rejected by successive directors of the National Cancer Institute.

If Dr. Burk feels he has new evidence then there is a way of bringing it to attention — to publish it. Either he has not published it or else it has been rejected.

Beyond a shadow of a doubt, fluoride does NOT cause cancer. I reject entirely Dr. Burk's claims to any such effect. He is a well-known figure and has made unqualified statements about supposed remedies for cancer in other areas. He is a controversial person. I do not accept his expertise in any way. I consider him unqualified to make the statements he has been making. There is no harm in fluoride as used in fluoridation of water supplies."

Dean Burk spoke twice in Toronto over the 1977 Easter weekend to the Consumer Health Organization of Canada — a newly-formed group which is affiliated with the National Health Federation (NHF) in the U.S.A. NHF, while promoting many worthwhile causes, is determined to eliminate fluoridation. NHF employs John Yi-mouyiannis, also a biochemist, to oppose fluoridation and credits him with its defeat in Los Angeles. Dean Burk in recent years has been a major promoter of Laetrile as a "cancer remedy." He claims main responsibility for

preventing the re-start of fluoridation for 3.8 million people who used to have it in The Netherlands. Now he states that it "is coming to a halt everywhere!"

The National Cancer Institute claims that these men have misinterpreted its report on cancer mortality. It states categorically that "there are no trends in cancer mortality patterns in the United States attributable to the consumption of water that is artificially or naturally fluoridated."

*A service to the public
From the Fluoridation Officer
Canadian Dental Association*

HOSPITAL FOR SICK CHILDREN FOUNDATION AWARDS \$46,488 TO CFDE

"The Board of Directors of the Hospital for Sick Children Foundation has approved funding of 'A Study of the Properties of Normal and Healing Mandibular Bone' until March 31, 1978," it has just been announced by John W. Neilson, D.D.S., Board Chairman of the Canadian Fund for Dental Education.

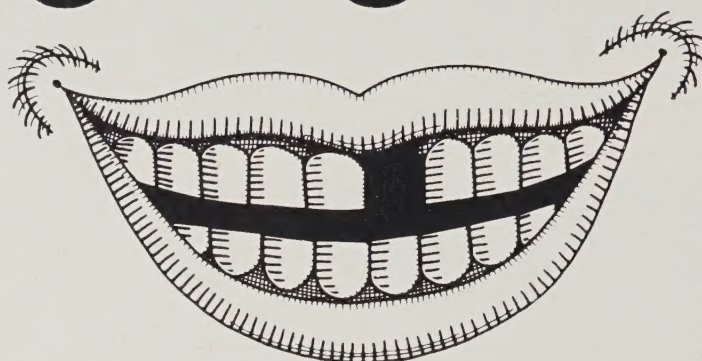
"This research project now in progress at the University of Toronto under the direction of Dr. D. C. Smith, Professor of Dental Materials Science, was commenced in October 1975 with the aid of a Foundation grant of \$18,000," said Dr. Neilson. "Objective of the research is to contribute to an improved clinical treatment procedure in children following fracture or osteotomy of the jaws. It is anticipated that the results of this research will be of immediate clinical benefit in the treatment of congenital malformations and mandibular fractures. It has been estimated that at least 500 such operations are performed per annum in Toronto alone. This study is also basic to the use of mandibular implants. It is expected that work on this promising project will be completed in 1978."

"The Foundation's tangible interest in dental science is most encouraging to all of us connected with education and research and we are deeply grateful to the Directors for their continuing generous help," said Dr. Neilson.

ASPD TERMINATES ITS NATIONAL ORGANIZATION

Members of the American Society for Preventive Dentistry were informed at the 7th Annual Scientific Session held in Denver in mid-June that the ASPD plans to terminate operations. The chapter presidents supported this decision and indicated that the positive impact of preventive dentistry programs will be continued through the independently organized chapters across the United States and Canada.

Gaps are no laughing matter.



You know as well as anybody that gaps are no laughing matter. It's your business to know. At least about the consequences of gaps between teeth and gaps in a person's programme of oral hygiene 'at home' and regular professional care.

There are lots of other gaps that aren't funny either. Like communication gaps and credibility gaps and the generation gap... and a gap that you may not be aware of as important to you as it is: *the income protection gap.*

Your Association recognizes the value of an integrated income replacement plan, and how an income protection gap can effect you. They know that when you are sick or injured and away from your job, you have enough on your mind without having to worry about money.

That's why they got together with Canadian Dental Service Plans Inc. and CNA Assurance Company to design the *Dental Auxiliaries Group Income Replacement Plan*. This Group Plan fills the gaps left by disability benefits payable under the Unemployment Insurance Commission (U.I.C.) and the Canadian or Quebec Pension Plans (C.P.P. or Q.P.P.).

Here's an example of how the Dental Auxiliaries Group Income Replacement Plan works:

Assume that your monthly taxable income is \$600, and you have \$400 worth of monthly, *tax free* income protection through the Group Plan. . .

After 14 days of disability, the U.I.C. will pay you about \$430 a month over the next 105 days of inability to work.

For the next two years of disability, the Group Plan will pay you \$400 a month *tax free* income.

Thereafter, the Group Plan will pay you, *to age 65 if necessary*, \$200 a month, *tax free*, to supplement the C.P.P. or Q.P.P. disability benefit of \$110 that should then be available to you.

If you enroll in the Group Plan when you are 34, for example, the \$400 monthly income protection would cost only \$10.17 a month. . . a pretty reasonable price for the financial security provided.

Also, you may choose monthly income protection up to \$600, and a second plan which pays a supplementary benefit during the initial days of disability for which U.I.C. benefits are available.

Fill me in.

I would like complete information about how the Dental Auxiliaries Group Income Replacement Plan can fill in my own income protection gap.

Name _____ Age _____

Address _____

City _____ Province _____ Postal Code _____

Professional Designation _____

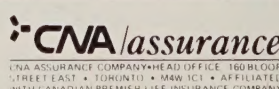
Mail to: Canadian Dental Service Plans Inc., 230 St. George Street, Toronto, Ontario M5R 2P1

The Dental Auxiliaries Group Income Replacement Plan is jointly sponsored by the Dental Hygienists Association and the Dental Nurses and Assistants Association.

Your Group Plan is Administered by:



and Underwritten by:



CNA ASSURANCE COMPANY • HEAD OFFICE: 160 BLOOR STREET EAST • TORONTO • M4W 1C1 • AFFILIATED WITH THE CANADIAN PREMIER LIFE INSURANCE COMPANY

ALBERTA

Dental Health Month was quite successful in Alberta this year. Numerous projects were carried out by the various health units in Alberta. Some of the dental hygienists from private practices became involved and the Dental Assistants Association also helped out with Dental Health Month. We received funds from the A.D.A. for toothbrushes, toothpaste and other necessary supplies. The Dental Department from the Division of Local Health Services provided us with posters, stickers, and newspaper articles. Special thanks is extended to all those volunteers in Alberta who donated their time to making this year's Dental Health Month successful.

Many activities in various areas throughout Alberta were conducted this year. I will begin with the activities planned by the Northern Component of the A.D.H.A., which was headed by MaryAnn King. Mayor Cavanagh of Edmonton proclaimed April as Dental Health Month in Alberta. Northern Alberta Dairy Pool was not contacted in time to have a dental message printed on milk cartons. However 19,000 pamphlets with stickers were run off by volunteers and N.A.D.P. agreed to send them out with the milkmen during April.

Linda Risdon, an Edmonton dental hygienist was a guest on the morning weather report for CHQT radio station. She gave such a good report on the importance of good dental health that they ran out of time for the actual weather report.

The film "Dudley the Dragon" was shown on the local television show Popcorn Playhouse, which hopefully reached a large number of children mainly from the pre-school age group.

Shopping Centre Displays were set up throughout Edmonton by the City Public Health hygienists on weekdays and by the dental assistants on Saturdays.

Leduc-Strathcona also set up similar displays in the main shopping centre in Sherwood Park. A table on the services of a dental hygienist was set up displaying pictures, teaching models, various dental aids and products. Another table showed some of the services offered by a dentist, including x-rays, orthodontic models, pictures, visual aids, and pamphlets. The shopping centre's displays received a fairly good response from the public and gave us a chance to talk to every age group from toddlers to grandmothers.

The City of Edmonton hygienists visited the pediatric wards of various institutions, which included the Charles Cammell Hospital, the General Hospital, the Royal Alex Hospital, the University Hospital and the School for the Deaf. The girls gave animated talks and

brushing demonstrations to different groups of children ranging from age three to about fifteen. The children enjoyed the visitors and were delighted to receive new toothbrushes and toothpaste. The staff at all of the institutions seemed very appreciative and welcomed a change in routine for the patients.

The Drumheller Health Unit gave dental health talks to approximately ninety per cent of the junior high schools and high schools in their area.

Central Alberta Dental Assistants' Association gave talks to Brownie packs in their area. They also held a poster contest for the Brownies and displayed some of the posters during Dental Health Month. Dr. Harach, a dentist from Red Deer had a very successful T.V. interview over CKRD. He also conducted a Mouth Guard Clinic in Red Deer. The local store in Blackfalls, a small town north of Red Deer agreed not to sell candy for the month of April. Posters, stickers, and newspaper articles were sent to the various health units upon request.

Jacquie Dahl

NEW BRUNSWICK

The main thrust of the Community Dental Health Committee was again concentrated towards a successful Dental Health Month. This year, rather than direction from a committee, NBDHA members offered suggestions and individually organized various projects. Efforts of the NBDHA and the Dental Assistants' Association were combined in some instances and several dentists helped as well.

The Moncton Subcommittee reports a successful attempt to bring the public's attention to good oral health. Brush-ins were held at two local shopping malls on consecutive weekends and both were well attended. Christine Robb and Mary Pelletier with a group of school children taped a half hour program on oral hygiene instruction for a local cable channel.

Activities of the Fredericton Subcommittee included the following:

- Kingsclear Youth Training Centre was visited by members of the local dental assistants' association and the NBDHA.
- A brush-in was held at the Regent Mall with approximately 300 preventive dentistry kits being distributed to the children present.
- Dental Health Month posters were distributed to local schools and radio announcements were presented over the local station.
- Visits were made to local classrooms, nursery schools and church groups.

Mary Coholan, Sue Breen and Christine Robb

MANITOBA

This year Dental Health Month was organized by the combined efforts of the Manitoba Dental Association, Manitoba Dental Hygienists' Association, and the Manitoba Dental Nurses Association.

During the month of February, dental oriented activities were scheduled. Dental teams throughout the province volunteered their time to present dental health programs in the schools. A Poster Contest was held for elementary school children with prizes awarded in several categories. On February 26, 1977, a Smile-a-thon was co-ordinated in four Manitoba centres: Winnipeg, Brandon, Portage and Dauphin. The Smile-a-thon began at all centres at 8:00 a.m. with a total of 98 participants. The record-breaking winners were Kimberly Kerzenowski and Donna Werbecki, both from Dauphin, who tied with a smiling time of 28 hours 1 minute. The previous record was 10 hours 5 minutes. This new record will go into the Guinness Book of World Records. During the Smile-a-thon in Winnipeg, displays, exhibits and a puppet show were set up in the Unicity Shopping Centre by the dental auxiliaries.

This year Dental Health Month was an attempt by the dental profession to reach and inform the public, especially in the rural areas. Next year we hope to continue and expand this concept.

NOVA SCOTIA

Like the rest of Canada, Nova Scotia celebrated Dental Health Month during the month of April. The Nova Scotia Dental Hygienists' Association prepared a flyer displaying a prevention message which was made available to all dentists and hygienists in the province for office distribution or with monthly bills. Radio spot announcements were broadcasted during the month and newspaper articles were submitted for publication to approximately twenty newspapers.

We chose the last week of April as the focus period of the campaign. The week was proclaimed by Mayors of Halifax and Dartmouth. During this week dental health presentations, demonstrations and brush-ins were carried out with Cubs, Brownies, Scouts, a Choir and Youth groups. Also, television interviews were done by a hygienist and senior dental hygiene students.

A project was conducted in six local hospitals where sugar-free snacks were promoted with the co-operation of the hospital nutritionists involved. A survey is being done by the hygienists in local day-care centres to investigate what kinds of snacks are being distributed and to encourage the use of sugar-free snacks.

Pauline Murphy

EXPANDING DIMENSIONS TO MEET THE CRITICAL NEEDS IN DENTAL EDUCATION AND RESEARCH

Who supports the Canadian Fund for Dental Education

Dentists . . . new graduates and recent retirees . . . families and neighbours . . . employees of dental supply firms . . . patients . . . dental faculty members and students . . . dental hygienists . . . dental laboratory owners . . . business executives . . . dental nurses and assistants . . . dental dealers and manufacturers - people who care about the future of dental health in this country.

Income in 1976 — Dentists lead the way

Personal contributions from dentists were the Fund's largest single source of support in 1976 and were a major factor in increasing CFDE's operational income to the highest level in history. Every province joined in the advance and 189 dentists became honour members by contributing \$100.00 or more, an increase of 25%. Most encouraging of all was the number of new supporters — 229.

Dental hygienists also helped with gifts of over a thousand dollars — a new record.

Business and industry, following the example set by the profession, also increased its support to a record level of \$57,000. Many companies generously increased their annual contribution and eight gave for the first time.

Foundation support declined by over \$15,000. Early in 1977, however, a major award of \$46,000 was approved by the Toronto Hospital for Sick Children Foundation.

A most welcome endowment fund of \$5,000 was established in 1976 by the Crown and Bridge Study Club of the Toronto Academy of Dentistry. Annual earnings of this fund will help support CFDE's programs.

An Investment in People

Almost half of CFDE's grants in 1975 were awarded to people who will directly influence the profession's future. Fellowships were awarded to fourteen dentists and four dental hygienists who, in a year or two, will be teaching in the nation's schools.

All applications for support are thoroughly screened and only those individuals who show promise of making a significant contribution to dental education are awarded fellowships.

As evidence of this careful selection process, our records show that fellowship recipients over the years now occupy important posts as teachers, researchers, chairmen and heads of dental school departments and directors of dental hygiene programs in dental schools throughout Canada.

The Fund also provides an opportunity for established teachers in Canadian faculties of dentistry to refresh and to extend their knowledge in any field of dental education and research. To this end a fellowship has been awarded annually since 1971 with resultant benefits to faculties and students.

Dental Research is not Neglected

Obviously an essential health profession must constantly search for improved treatment procedures and better methods of delivering dental care.

CFDE recognizes this need by financing promising research projects. For example, the 9th Biennial Conference on Dental Research and Education was funded by CFDE in 1976. The research sessions dealt with "Dental Caries and Periodontal Disease" while the education component explored "Pain and Apprehension Control in Dentistry". This meeting provided a unique opportunity for leading researchers from all parts of Canada to come together in a forum designed to advance dental research and knowledge.

A Record of Achievement

As recently stated by Fund Trustee Dr. James A. Guest: "Since 1963 voluntary gifts have enabled CFDE to invest over three quarters of a million dollars in dental education and research programs that in some measure have directly or indirectly benefited every dental school, student and practising dentist in Canada. Obviously the public has benefits as a result."

OPTIQUE EN EXPANSION POUR FAIRE FACE AUX BESOINS URGENTS DES DOMAINES DE L'ENSEIGNEMENT ET DE LA RECHERCHE DENTAIRES

Où provient l'appui financier destiné au Fonds canadien pour l'enseignement dentaire?

De dentistes . . . des jeunes diplômés et de dentistes à la retraite . . . de la famille et des voisins . . . d'employés d'entreprises de fournitures dentaires . . . de patients . . . de membres des facultés dentaires et d'étudiants . . . d'hygiénistes dentaires . . . de cadres . . . de propriétaires de laboratoires dentaires . . . d'infirmières et d'assistantes dentaires . . . de négociants et de fabricants de produits dentaires — de tous ceux qui se soucient de l'avenir de la santé dentaire dans notre pays.

Revenus en 1976 — Les dentistes se placent en tête de file

Les contributions personnelles faites par les dentistes représentaient, en 1976, la source individuelle la plus considérable d'appui financier au FCED; elles constituaient l'un des principaux facteurs contribuant à l'augmentation des revenus d'exploitation du FCED, qui ont atteint des niveaux plus élevés que jamais. Toutes les provinces ont contribué à cette augmentation; 189 dentistes se sont élevés au rang de "membres d'honneur" (don de \$100 ou plus), soit une augmentation de 25%. Même encore plus encourageant, le nombre de nouveaux membres de soutien s'élève à 229.

Les hygiénistes dentaires ont contribué des dons qui dépassait un millier de dollars — nouveau chiffre record.

Les entreprises commerciales et industrielles, suivant l'exemple de la profession, ont également battu tous les records et elles ont contribué \$57,000. De nombreuses compagnies ont généreusement augmenté leurs dons, alors que huit entreprises contribuaient au Fonds pour la première fois.

L'appui provenant de Fondations a diminué de plus de \$15,000. Toutefois, au début de 1977, une importante subvention s'élevant à \$46,000 a été approuvée par la Fondation de l'Hôpital pour les enfants malades à Toronto.

Un fonds de dotation fort apprécié a été créé en 1976 par le Crown and Bridge Study Club de la Toronto Academy of Dentistry. Les revenus annuels provenant de ce fonds aideront à subventionner les programmes du FCED.

Un investissement dont bénéficie le public

Presque la moitié des subventions octroyées en 1976 ont été accordées à des personnes qui ont une influence directe sur l'avenir de la profession. Quatorze dentistes et quatre hygiénistes dentaires ont obtenu des bourses et dans un an ou deux, ces professionnels enseigneront dans une des écoles du pays.

Toutes les demandes d'appui financier sont étudiées à fond et seules les personnes qui promettent de faire une importante contribution à l'éducation dentaire reçoivent des bourses.

Pour bien prouver combien cette méthode de sélection est efficace, notre bilan indique que les bénéficiaires de bourses au cours des années passées occupent aujourd'hui d'importants postes d'enseignants, de chercheurs, de chefs de départements d'écoles dentaires et de directeurs de programmes d'hygiène dentaire dans les facultés du Canada.

Le fonds procure également une occasion aux enseignants des facultés dentaires canadiennes de perfectionner et d'approfondir leurs connaissances dans le domaine de l'éducation et de la recherche dentaires. Une bourse est octroyée à cette fin tous les ans depuis 1971 et les facultés ainsi que les étudiants profitent de ce don.

La recherche dentaire n'est pas négligée

De toute évidence, une profession essentielle du domaine de la santé doit sans cesse rechercher le perfectionnement de ses procédures de traitement et l'amélioration de ses services.

Le FCED fait face à ce besoin au moyen de financement de projets de recherche de mérite. Par exemple, le 9ème Conférence biennale sur la recherche et l'enseignement dentaires était subventionnée, en

1976, par le FCED. Pour le domaine de la recherche, les séances traitaient de "caries dentaires et maladies parodontaires" alors que celui de l'enseignement explorait la "douleur et suppression d'appréhension au cours de l'exercice dentaire". Cette assemblée présentait aux principaux chercheurs du Canada entier l'occasion unique de tenir un forum conçu à approfondir les connaissances et les recherches dentaires.

Réalisations

Le Dr James A. Guest, fiduciaire du Fonds, a récemment déclaré: "Depuis 1963, les contributions bénévoles ont permis au FCED d'investir trois-quarts de millions de collars dans des programmes d'enseignement et de recherche dentaires qui ont, directement ou indirectement, eu une influence bénéfique sur toutes les écoles dentaires, tous les étudiants et tous les dentistes exerçant au Canada. Conclusion manifeste: c'est le public qui a bénéficié de notre appui."

1977 AWARDS TO GRADUATE DENTAL HYGIENISTS

The Board of trustees of the CFDE are pleased to announce the 1977 dental hygienist recipients of teacher training fellowships:

- Denise Clarke, West Vancouver, B.C.
- Paula Chu, Edmonton, Alberta
- Helga Dettbarn-Renkenhagen, Toronto, Ontario
- Marjorie Dimitri, Richmond, B.C.
- Stephanie Nagle, Toronto, Ontario
- Pamela Waters, Edmonton, Alberta

CFDE GRANTS FOR 1977

Here are grants already approved for 1977 that the CFDE Trustees are confident will benefit the profession and the public:

Teacher Training Fellowships for Dentists and Dental Hygienists	\$66,000
CDA Graduate and Undergraduate Accreditation Program	\$21,000
Students' Conference and Student Table Clinic Program	\$ 7,600
Research Project at the University of Toronto funded by a Sick Children's Hospital Foundation Grant	\$41,000
Grants to each Dental School	\$10,000
ODA Dental Health Conference	\$ 1,500
3rd International Congress on Cleft Palate and Related Craniofacial Anomalies	\$ 2,000
FDI/CDA Congress Lecture Program	\$ 1,300
CDA/ACFD Teaching Conference	\$ 4,600
MacLachlan Endowment - Universities of Toronto, McGill and Dalhousie	\$ 4,000
CDA Council for Dental Materials and Devices	\$ 2,000

These plus other awards will provide a record shattering total of over \$161,000 in assistance for dentistry in 1977.

Won't you join your confreres in helping to advance your profession? It's easy!

JUST SEND YOUR TAX DEDUCTIBLE GIFT TO CFDE TODAY.
You'll be glad you did.

ACKNOWLEDGEMENT

The CFDE trustees wish to pay tribute to the following individuals who contributed to the Dental Hygiene Fund in 1976.

Les fiduciaires du FCED désirent rendre hommage aux personnes suivantes qui ont contribué au Fonds d'hygiène dentaire en 1976.

Aitken, S. M., Rosemere, Que.	Jesin, E. F., Toronto, Ont.
Bespflug, E. N. E., Victoria, B.C.	Johnson, P. M., Aurora, Ont.
Besser, N. J., Kapuskasing, Ont.	Johnson, D., Grand Forks, B.C.
Bland, M. L., Gibson's, B.C.	Junkin, M. E., London, Ont.
Bonchek, J. F., Hampton, Ont.	Kenny, M. D., Oyen, Alta.
Bryant, S. D., Regina, Sask.	Kline, C., Vancouver, B.C.
Butt, G. M., Halifax, N.S.	Kuehl, K. A., Utopia, Ont.
Clark, S. K., Newmarket, Ont.	Lang, D., Mississauga, Ont.
Clarke, D., West Vancouver, B.C.	Langrick, S. A., Toronto, Ont.
Cohen, B. R., Toronto, Ont.	Larder, P. M., Boston, Mass.
Coholan, M. E., Fredericton, N.B.	Lawson, F., Vancouver, B.C.
Cool, G., Prince Rupert, B.C.	LeClair, D., Winnipeg, Man.
Corkum, S., Halifax, N.S.	Little, M., Dollard-des-Ormeaux, Que.
Cormier, M. A., Sydney, N.S.	Luginbuhl, S., North Vancouver, B.C.
Costigane, J. E., Waterloo, Ont.	Lyons, D. B., Scarborough, Ont.
Craig, B. J., Vancouver, B.C.	MacDonald, K., Halifax, N.S.
Craven, R. A., Waterloo, Ont.	Maschak, L. A. M., Vancouver, B.C.
Dailey, B. L., Mississauga, Ont.	McCance, L. S., Markham, Ont.
Davies, S. L., Regina, Sask.	McGinis, J. V., Wabush, Nfld.
Dimitri, M. J., Richmond, B.C.	McNee, E. D., White Rock, B.C.
Donis, M. F., Delta, B.C.	Osback, H., Saskatoon, Sask.
Donovan, H. L., Regina, Sask.	Pelletier, M. A., Moncton, N.B.
Dryden, S. E. B., Edmonton, Alta.	Phillips, D. F., Edmonton, Alta.
Dumas, D., Tracy, Que.	Poole, B. T., Kingston, Ont.
Elliot, K., Edmonton, Alta.	Rimmer, S. J., Kelowna, B.C.
Falconer, C., London, Ont.	Robertson, P. D., North Vancouver, B.C.
Feller, S. J., Winnipeg, Man.	Robichaud, L., Ste-Foy, Que.
Foerter, V., Hanmer, Ont.	Salcman, S. R., Toronto, Ont.
Franzgrote, H. E., Maxville, Ont.	Scoles, D. C., Montreal, Que.
French, S. B., Ottawa, Ont.	Seabrook, I., Sherwood Park, Alta.
French, S. H., Ottawa, Ont.	Smith, S. M., Edmonton, Alta.
Gardner, W. J., Vancouver, B.C.	Soren, J. M., Toronto, Ont.
Gold, I. L., Winnipeg, Man.	Stauffert, M., Barrie, Ont.
Goodman, S., Toronto, Ont.	Street, M. D., Calgary, Alta.
Gutkin, B., Pine Falls, Man.	Sturmwind, D. M., Chemoineus, B.C.
Hagerman, H. A., Beckley, W. Va.	Swanton, S. E., Guelph, Ont.
Hall, P. L., Etobicoke, Ont.	Voris, J. S., Vancouver, B.C.
Halowski, W. A., Vancouver, B.C.	Walsh, M., Mississauga, Ont.
Hamill, M., North Vancouver, B.C.	Watts, L. M., Calgary, Alta.
Hartson, M., Castlegar, B.C.	Whitney, C. L., North Vancouver, B.C.
Harwood, N. E., Nanaimo, B.C.	Wood, A. E., Toronto, Ont.
Hendrick, K. F., Toronto, Ont.	Workman, F. L., Vancouver, B.C.
Hewton, B. I., Surrey, B.C.	Worobey, C. L., Winnipeg, Man.
Hill, A. E., Islington, Ont.	Zurbrigg, J. R., Sudbury, Ont.

The Canadian Fund for Dental Education has a vast stake in all aspects of dental and dental auxiliary education and research, and the CDHA sincerely appreciates their encouragement and support which have been influential in the growth and achievements of the dental hygiene profession in Canada. With increasing support, it may be hoped that it will be able to, in even more productive ways, encourage programs that will ultimately help us to achieve our common goal of better dental health for all Canadians. The CFDE has recognized that the most valuable of all capital is that invested in human beings and it is hoped that you too will show this same interest during "October is CFDE Month".

SELF-ASSESSMENT TEST

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

Following is the third of a series of self-assessment tests to be published in the 1977 issues of THE CANADIAN DENTAL HYGIENIST. The questions have been taken from Shailer Peterson's COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS and incorporate three areas of dental hygiene practice: providing supportive treatment services, assisting in emergencies, and participating in community health activities.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 68 for the correct answers.

1. Which temporary restorative materials would be required for a hypersensitive tooth?
 - a. Zinc oxide-eugenol cement
 - b. Silicate-flouride cement
 - c. Gutta-percha
 - d. Acrylic resin
2. The final polishing of a restoration should be done
 - a. with wet polishing powders at high speed.
 - b. immediately after insertion.
 - c. with dry polishing powders at low speed.
 - d. not less than 48 hours after insertion.
3. A 61-year-old man presents to the dentist for treatment. He will require some subgingival curettage and root planing. His history reveals a prior phlebitis with thrombus formation in a leg vein for which he takes 5 mg. of warfarin (Coumadin) (anticoagulant) per day. In anticipation of post-treatment hemorrhage you should
 - A. ask him to discontinue the drug.
 - B. consult his physician about altering the drug.
 - C. ask for a determination of his prothrombin time.
 - D. prescribe vitamin C.
 - E. prescribe vitamin K.
 - a. A, C
 - b. B, C
 - c. B, D
 - d. A, E
4. What is perhaps the most frequent complication associated with local anesthesia in the dental office?
 - a. Syncope
 - b. Skin rash
 - c. Serum sickness
 - d. Anaphylactic shock
 - e. Edema

5. Prophylactic antibiotics should always be prescribed (in the absence of an obvious contraindication) for the patient who has a history of
 - a. squamous cell carcinoma
 - b. anemia.
 - c. subacute bacterial endocarditis.
 - d. hemophilia.
 - e. all of the above.
6. The typical findings in a patient having a severe heart attack are
 - a. severe pain and crushing pressure beneath the sternum.
 - b. apprehension and sweating.
 - c. shortness of breath.
 - d. nausea and vomiting.
 - e. all of the above.
7. If a patient has cardiac arrest in your office, the most beneficial procedure would be
 - a. oxygen therapy.
 - b. mouth-to-mouth resuscitation.
 - c. mouth-to-mouth resuscitation plus external cardiac massage.
 - d. external cardiac massage.
 - e. an I.V. injection of epinephrine.
8. The hygienist is conducting a survey utilizing the simplified oral hygiene index (OHI-S). Which of the following conditions would be recorded?
 - a. Submarginal and supramarginal calculus deposits present
 - b. Inflammation of the free gingivae
 - c. Plaque and gingival inflammation
 - d. Plaque, submarginal and supramarginal calculus
9. The number of new cases of a disease occurring in a given period of time is defined as
 - a. incidence.
 - b. prevalence.
 - c. morbidity.
 - d. mortality.
10. Will fluorosis occur in the mouth of a 16-year-old youth who moves into an area where the drinking water naturally contains excessive amounts of fluoride ions and where the native residents have considerable fluorosis?
 - a. Yes, immediately
 - b. Yes, within 10 years
 - c. No
 - d. Not unless the youth consumes large quantities of water

The 3rd Edition of COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS, edited by Shailer Peterson, provides an all-inclusive and function-oriented review of dental hygiene and is a worthwhile reference for all graduates. In addition to providing information on most subject areas, it includes many multiple choice questions which may be used to test comprehension and knowledge. This text is available from the C.V. Mosby Company, 86 Northline Road, Toronto, Ontario M4B 3E5.

JOAN S. VORIS, Chairman
CDHA Education Committee

EMPLOYMENT TIPS FOR THE DENTAL HYGIENIST

SHARON B. FRENCH, M.S., R.D.H.

Dental hygienists are pursuing in increasing numbers long-term careers in some fields of dental hygiene. It is all the more reason why the selection of positions most suitable to you and the evaluation of your present position are so important.

A very practical handbook has been authored by an American dental hygienist on the subject of employment.⁽¹⁾ Although Joan Lampner relates her experiences in California many of the issues presented are similar in Canada. She asks us, the readers, to consider the benefits of our employment situation, e.g. sick leave, maternity leave, pension plans which enable us as dental hygienists to look at dental hygiene as a lifetime occupation.

Ms. Lampner proposes an employer-employee agreement (for private practice) which would set down on paper what is expected from both parties and thus reduce the chances of misunderstanding. Practical suggestions as to how to deal with numerous minor but potentially frustrating problems in the dental office are presented in an easy to read, and often humorous style. Ms. Lampner contends that many of the problems of dental hygiene are due to the fact that we dental hygienists have allowed dental hygiene to remain in many cases a short term career.

She stimulates the reader to become more assertive, to work towards improving the conditions of employment for dental hygienists and thereby improving the opportunity to make dental hygiene a lifetime career. As Ms. Lampner mentions frequently throughout the book, this pursuit should not be considered threatening to the employer-dentist since he/she will benefit from an improved long-term productivity and a more satisfied employee. A job assessment quiz and an assertiveness evaluation are included at the back of the book. Without doubt, Joan Lampner's book is recommended reading for all dental hygienists "old" and "new". It is available from the author at a cost of \$5.25 in U.S. currency.

Bashar Bakdash⁽²⁾ states that compatibility is a key factor in the success of any dental health team. He recommends that the applicant look at his/her skills, preferences and values before seeking employment. They should acquire some self-knowledge of their own: technical skills, temperament, communication skills, stamina, position preference, and cognitive (knowledge) skills. Included in the article are a

curriculum vitae format and a decision-making checklist which will help the hygienist to select the position most suited to his/her needs.

Catherine Springstead and Wm. Bruce Knapp⁽³⁾ maintain that hygienists need to know how to assess a dentist's value system and to determine to what extent it is compatible with their own. They contend that if the dental hygienist and the dentist do not share the same value system, the harmony and continuity of a workable professional relationship is doomed before it starts. Interview topics which may provide you with clues as to the value system include: the observance of state (provincial) laws, the system of referrals, the recall system, the patient's medical history, the sterilization procedure, the new patients, the office routine, and comprehensive patient care.

W. Jo Gardner and Carol Kline⁽⁴⁾ relate the conditions of employment affecting dental hygienists in Canada. They suggest that clarification of these conditions prior to acceptance of a position will probably result in the selection of a more suitable employment and will encourage a long-term commitment to the position. The authors discuss provincial labour legislation, employer/employee contracts, the work period, the probation period, methods of financial compensation, vacations, sick leave, uniforms, dental services, continuing education, smoking, termination of employment, payroll deductions, income tax, unemployment insurance, Canada Pension Plan, sickness and accident insurance, and malpractice insurance.

Job satisfaction is a most important ingredient in the achievement of a life career. Ensure that where you work you are able to give your best in an environment of mutual understanding. Now if the world and we were only perfect!

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FOOD FOR A HEALTHY HEART

MARY HENLEY AND DR. AUBIE ANGEL

Mary Henley is co-ordinator of nutrition education, Ontario Heart Foundation. Dr. Aubie Angel is associate professor and clinical researcher, Department of Medicine, University of Toronto.

"Eat, drink and be merry . . ." the old adage advises. And so we do, with joy and abandonment. We learn through childhood and adolescence to celebrate our special times, meet with friends and accept reward for achievement in an eating, drinking milieu. Suddenly as adults we begin to hear the admonitions "You're too fat"; "You're in terrible shape"; "Better cut out eating those eggs".

So what's all this fuss about fat?

One need only stroll through a Canadian supermarket with a visitor from a non-North American country to become aware of the quantity and variety of food virtually at our fingertips. The accessibility of food combined with the paucity of energy expenditure on the individual's part in securing food has created a dilemma.

The physiological machines, our bodies, are receiving more fuel than we require, and the consequent storage is causing us problems.

Most excess fuel in the human is stored in the form of fat. The combination of extra body fat and the continual eating of too many calories of sugar, fat and protein has resulted in an enormous rise in the incidence of obesity, diabetes and heart disease.

The story of the role of diet in the development of these diseases is only partially known. Research has revealed that in heart disease, for example, a high intake of foods containing saturated fat or cholesterol leads to a higher than normal content of these fats in the blood stream. Cholesterol, in its naturally occurring form in food, or when manufactured from saturated fat in the body, is the substance which is deposited in blood vessels. It causes a progressive narrowing of blood vessels and can eventually block a vessel completely.

Thus, a heart attack occurs as the end result of this narrowing process called atherosclerosis.

The combination of lack of physical activity and over-consumption of calories has led to one of our more visible health problems, overweight and obesity. Not only is obesity frowned upon by the fashion world but by those in the health field as well. Obesity increases the risk of developing heart disease, diabetes and high blood pressure. Since high blood pressure itself increases the chance of heart attack, it is easy to understand why statistics show that our overfed, overweight, inactive, society has such a high incidence of heart disease and heart deaths after age forty.

Happily, the picture is not as gloomy and as desperate as one might think. Research has shown us that a great part of the cure for heart disease is within our grasp. Through developing some altered life-style habits, the majority of us can ensure a vigorous, active life well past our forties. Moreover, if heart disease has already been established, one can certainly diminish its effect on daily living by embracing a more active, health centred lifestyle.

One step in the right direction is to examine your diet. Cholesterol has been identified as the chief culprit in the diet and heart disease area. This fat-like substance is found mainly in foods of animal origin: egg yolks, dairy products, shrimp, organ meats like liver and kidney and in marbled meats, i.e. spareribs, bacon, salami, and sausages.

"Building Block"

In addition, saturated fat contributes to the body's cholesterol supply by serving as the building block for manufacture of cholesterol, chiefly in the liver. This group of fats is generally recognized as those of animal origin which are hard at room temperature. It includes meat fats, butter fat, lard, shortening and some margarines. Saturated fat may be found in whole milk, ice cream, cheese, chocolate, cashew nuts and certain vegetable oils, i.e. coconut oil and palm oil.

Many of these food items are introduced into the diet in subtle ways through baked goods, egg custards, coffee whitener and whipped cream substitutes.

Consequently, reading food labels is a necessity in eliminating or decreasing the intake of these fats.

Another category of fats with which you may be familiar is polyunsaturated fat. These fats benefit the body by lowering the cholesterol and so are recommended in a diet to replace the saturated type mentioned above. This group includes those fats which are soft at room temperature: various oils (corn, sunflower and safflower), certain nuts especially walnuts, and special soft margarines. These margarines are identifiable by their labelling which should state that they contain 35-40% polyunsaturated and 18% saturated fat.

Why is it important to have the margarine which is specifically labelled? Margarines, although made from 100% vegetable oil, undergo a processing which adds hydrogen to the natural oil. This changes the chemical quality of the fat from polyunsaturated to a more saturated form. As a result the cholesterol lowering qualities the oil originally possessed are destroyed.

In addition, the type of vegetable oil used may include coconut oil and palm oil which, as was mentioned, are saturated oils in their natural state. The margarines which are labelled (35-40% polyunsaturated, 18% saturated) have been processed in a selected manner which ensures the retention of some polyunsaturated fat. These are therefore preferred for the low saturated fat diet.

Should everyone be following a low cholesterol, low saturated fat diet? This is a question that is recently undergoing much discussion. Certainly the experts agree that anyone who has been shown to already have a high blood cholesterol level should limit his intake. The diet can lower the blood cholesterol level from 10-20% in general and up to 30% in some cases. Nutritionists and physicians also caution a person whose father, uncle, grandparents, etc. developed heart disease at an early age or died from heart attack, to modify his diet.

However, it is in the recommendation for the general population that opinion is divided. It would be certainly acceptable to both schools of thought to say that it is believed that moderation in the use of cholesterol concentrated foods like eggs, and limited intake of animal fats would be beneficial. Such a diet would also be helpful in keeping the body weight down to its optimal level.

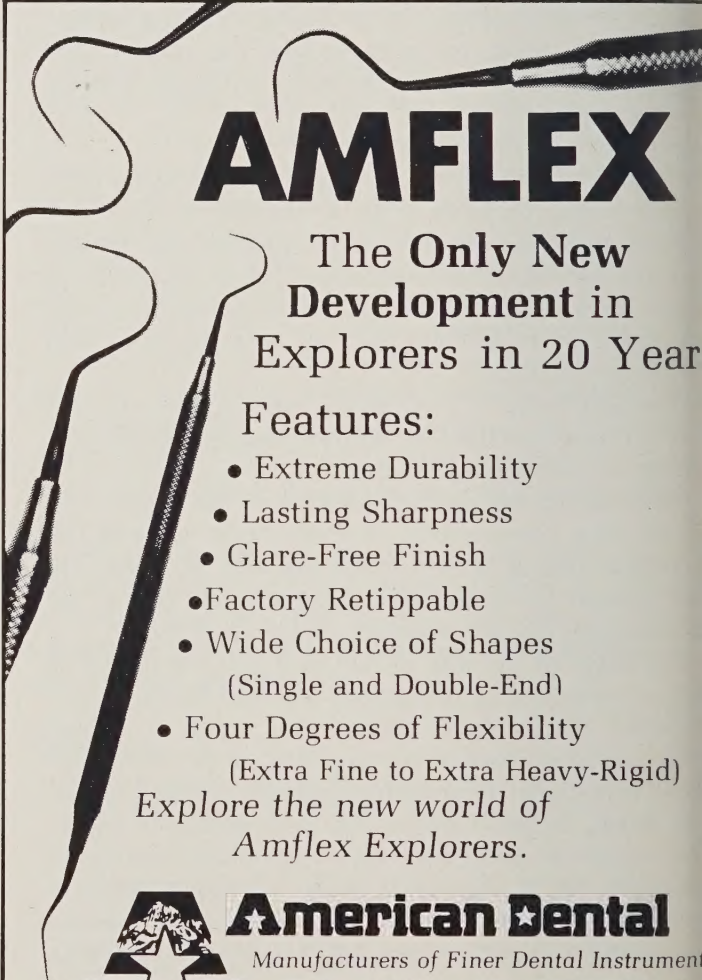
Another term with which you may be familiar is triglyceride. This is the form in which fat is transported in the body. The majority of triglyceride is made in the liver from the foods consumed. Triglyceride is the chief fuel burned by the body for energy purposes and is therefore a necessary component of blood. However, an abnormally high level of triglyceride is often associated with obesity and poorly-controlled diabetes.

This blood fat is very responsive to a change in diet and is readily returned to normal levels. The diet to

alter triglycerides not only recommends a change in the kind of fat as outlined above but limits sugar and alcohol. As a consequence the person with this problem must adopt a food pattern which limits table sugar such as white sugar, brown sugar and honey, and includes a specified amount of natural starches and sugar, i.e., fruit, vegetables and bread. Alcoholic spirits, beer and wine should be sharply reduced for any degree of success in lowering triglyceride levels.

And so, you see, you can "Eat, drink and be merry . . ." You must only be selective in choosing what and how much to eat, what and how much to drink. Perhaps you might also consider having your doctor investigate your blood fat levels, along with your blood pressure and weight next time you have a checkup. This more complete view of the status of your personal physical health is the best starting point for assessing the healthfulness of your present lifestyle.

(Reprinted from Health, Winter 1977)



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DENTISTRY IN CANADA: AN OVERVIEW

W. G. McINTOSH, D.D.S., M.Sc.D., F.R.C.D.(C)

Dr. McIntosh is a Vice-President of the Federation Dentaire Internationale and is chairman of the FDI/DA Congress Organizing Committee.

This brief survey of the situation of dentistry in Canada covers the following: numbers of dental personnel; dentist/population ratio; geographical distribution of dentists; provincial and national organizations of dentistry; licensure; the pattern and role of professional associations; private practice versus organized dentistry; financial status of dentists; dental education, including specialties and higher education; provincial dental care plans for different groups, specially children; education and competence of auxiliaries; prevention, including fluoridation; the situation of denturists; dental insurance plans; expectations of the public; and problems in dental health in Canada today.

Dental services are provided for Canada's 22,000,000 inhabitants by some 9,000 licensed dentists (only 7% of whom are females), 1,500 licensed hygienists, a variety of other ancillary workers including dental technicians, dental assistants, dental nurses and in some areas by licensed dental mechanics. Only about 10% of the total population is reported to receive regular dental care. The profession is in close liaison with governmental and other interested agencies in efforts to overcome the economic, educational, geographic and social problems which prevent the other 90% from receiving the dental care they need.

Canada is a relatively large country. It is 4,000 miles across from the Pacific coast to the Atlantic. It has many remote sparsely populated areas particularly in the northern regions where access to all types of health care is much more difficult than it is in the southern urban centres. The ratio of dentists to population therefore varies widely between Canada's ten provinces and from one region to another within the

provinces. British Columbia, the most westerly province has approximately one dentist to 1,900 residents. This is our best provincial ratio. Newfoundland, the most easterly province, has the poorest ratio, 1:8,600. Canada's average in 1975 was 1:2,600.

The British North America Act gives Canada its constitution. It establishes Canada as a federation of its ten provinces and northern territories with a central federal government. Each province and territory also has its own government with special areas of responsibility. Health is one such area. As a consequence, licensure for dentists is a provincial prerogative. Each province has its own dental licensing board, the authority for which comes from the provincial government of that province. Licensure and discipline are the main areas of responsibility of the dental licensing boards.

An organization called the National Dental Examining Board which is representative of the provincial licensing boards has been established to facilitate dentist portability from one province to another. Successful completion of a National Dental Examining Board examination gives the dentist candidate a certificate which is registrable in all provinces.

The dental profession in Canada is well organized. In addition to the Canadian Dental Association, each province has its own provincial dental association. Whereas the licensing boards are primarily to protect the public interest, the national and provincial dental associations mainly serve the interests of their members. There are two national dental journals, one of which, the Journal of the Canadian Dental Association, is bilingual (English and French). Two provincial dental associations also publish dental journals.

The vast majority of dentists in Canada are in private practice on a fee for service basis. Some 500 are in full time salaried positions either with university dental schools as teachers and/or researchers,

with the armed forces, with other government agencies, with hospitals, or on other administrative assignments. The average income for dentists ranks about fifth highest as reported by the National Department of Revenue following the physicians and surgeons, lawyers, architects and engineers.

Nine dental specialties are recognized in Canada - dental public health, endodontics, oral pathology, oral radiology, oral surgery, orthodontics, paedodontics, periodontics and prosthodontics. There are approximately 800 certified specialists across Canada, the vast majority concentrated in the larger urban centres. The Royal College of Dentists of Canada is an organization of specialists set up to promote academic achievement and practice skills by specialists to a degree beyond that required for normal certification. It grants fellowships to candidates who are successful with its fellowship examinations.

There are currently ten dental schools in Canada, two French speaking and eight English speaking. The basic undergraduate programme is four years, following a University year of arts and science. About 600 new graduates enter the profession each year from the ten schools.

There is as yet no universal dental care plan in Canada as there is for medical and hospital services. Most of the provinces, however, have either introduced their own dental plan for children or are in the process of doing so. One province, Alberta, has a programme which provides dental services to the over 65 age group and their dependents at government expense. Those children's plans that are in operation are incremental in nature usually beginning with the five or six year old children, adding additional age groups as circumstances permit. They are funded from government revenues. The services covered by the plans, the dental personnel who provide the services and the locations in which they are provided vary from plan to plan. In one province, Saskatchewan, dental nurses of the New Zealand type, working in school clinics under what the profession believes is inadequate supervision by licensed salaried dentists, supply the bulk of the preventive and treatment services. In the other provinces, dentists provide most of the services in their own private offices on a fee for service basis. They may be assisted by dental hygienists and dental assistants working under their supervision. The intraoral services which these auxiliaries can legally perform vary from province to province depending on specific regulations set up by each provincial dental licensing board.

The rather widely different methods of providing dental services may, in part at least be explained by the fact that both the introduction of children's dental health programmes and the expansion of the customary duties of dental hygienists and dental assistants are relatively new in Canada. Efforts are being made by organized dentistry to develop standards of

education and practice for dental auxiliaries that will assure high quality services and not impose difficult practice problems when the auxiliary finds it necessary to move from one part of Canada to another.

The profession also continues to stress with government and the public the importance of preventive procedures before any dental health plan can be truly successful. It was therefore particularly pleased last year when one of our large provinces, Quebec, became the first province to approve legislation requiring all municipal water supplies, within the province to be fluoridated. Many other Canadian communities enjoy the benefits of fluoridation, but Quebec province is the first to introduce it on a provincewide basis.

The profession has been less successful against efforts by dental mechanics (denturists) to gain the legal right to provide denture services directly to the public. Although strongly resisted by the profession in all provinces, dental mechanics now operate legally in most. They must meet specified educational requirements and be licensed. They can then manufacture full dentures for edentulous arches without a dentist's supervision. In one province, Ontario, they can also construct partial dentures providing this is done in the office of, and under the supervision of a licensed dentist.

In addition to the dental plans introduced by governments, other types of pre-paid dental plans are also on the increase. An assortment of plans is offered by insurance companies, service corporations, labour unions and some management groups. In many instances these prepayment plans make dental services available to employees and their dependents who might otherwise not have ready access to them.

I believe Canadians who do receive regular dental attention receive as high a quality of dental service as is available anywhere. However, there are still many economic, social and distribution problems to be resolved before the majority of Canadians can take advantage of these excellent services. The Canadian public now considers ready access to all health services a right rather than a privilege. It expects high quality services at a cost it can afford. It agrees that recent scientific and technological advances have been impressive but it also reminds us that important questions with social and economic dimensions still need to be solved.

Compelling problems today in the dental health field in Canada are concerned with improved methods of preventing dental disease, with the introduction of more effective, more economical approaches to rendering dental services, with the control of quality of professional services and with the promotion of dental health as a means of enhancing the quality of life.

(Reprinted from the FDA NEWSLETTER, January 1977)

WHAT IS MYOFUNCTIONAL THERAPY?

G.L. McMURRAY, D.D.S.

Dr. McMurray is a general practitioner with his practice limited to orthodontics and myofunctional therapy in Parksville, B.C.

What is myofunctional therapy? Myofunctional therapy is muscle (myo) function therapy. The therapy concept refers to a program of remedial treatment utilized in the correction of orofacial muscle imbalance and deviate swallowing patterns caused by breast feeding (too fast), bottle feeding, thumb, finger and knuckle sucking, nail biting, ankylotic tongue, and/or enlarged tonsils.

In dentistry you know by now that the name of the game is occlusion, and many books have been written by well known authorities on this topic. Authors include orthodontists, gnathologists, prosthodontists, periodontists, and those who do restorative dentistry, full mouth reconstruction and occlusal equilibration.

Dentistry has become increasingly concerned with the biological principles underlying the movement and the position of the teeth rather than just the mechanics and methodology concerned with the maintenance and esthetic appearance of the teeth. You can move teeth where you think they belong, but nature will place them where they best adapt to the needs of the rest of the organism. Those of us who are trained in myofunctional therapy are of the opinion there is an interrelationship between form and function with each independent of and dependent upon the other.

It is important that an understanding of the normal muscle function during swallowing be established before any abnormality can be recognized. The normal force of the orofacial musculature in relation to the dentition follows a pattern which occurs during the act of swallowing. This is known as the triangular muscular force concept.

The masseters and buccinators exert lateral force against the dentition. The tongue exerts a vertical and posterior force against the hard palate, and the orbicularis oris muscle exerts a pressure posteriorly against the upper teeth. The mentalis muscle is passive. At no time is there an anterior force exerted against the dentition by any part of the orofacial musculature. We might say that the orofacial musculature during the swallowing act is essentially a stabilizing one in a normal, non-static occlusal relationship. It plays two important roles by acting as a

guiding force in the establishment of occlusion during growth and development, and as a maintaining force in an established occlusal relationship.

It is therefore important to realize that the practice of myofunctional therapy demands extensive knowledge of the presence and correction of oral habits which have an effect on growth, development and function of the oral cavity. It soon becomes apparent to therapists as they work within this discipline that they must understand the growth, development and function of the muscles of mastication. In addition, they must understand occlusion and the bony structures of the maxilla and mandible if they are to practise successfully.

It is also essential to have some knowledge of embryology, histology, growth and development of the oral cavity, the anatomy and physiology of the oral cavity, skeletal aspects of growth and development, the function of the orofacial muscles, dental anatomy and physiology including morphology of the dentition, skeletal and dental occlusion, and the physiology of the oral musculature and occlusion. To practise myofunctional therapy, one must also have an understanding of the function of the speech musculature, of normal and abnormal speech patterns, the normal and abnormal articulation of the consonant sounds, the onset and developmental aspects of speech and the methodology utilized for the correction of misarticulated speech sounds.

From what I have previously said, you now realize that dental medicine, speech pathology and myofunctional therapy are interrelated in the treatment of many problems of the deviate swallow, orofacial muscle imbalance and speech problems. It is apparent that there is a need for understanding the development and relationship of speech to dental medicine and the relationship of the dental structure to speech. It is interesting to note that the problems associated with both dental medicine and speech pathology have contributed to the emergence of and the need for myofunctional therapy as another specialty.

Stages of Therapy

Myofunctional therapy involves three stages. The first phase is that of muscle training. The muscles of the tongue and the lips are re-educated to accommodate the new and correct swallowing pattern; that is, a new muscular environment is created in the mouth. The second phase is to teach the patient how to swal-

low with a new swallowing pattern. After the muscles of the tongue and mouth are strong enough, the patient is ready to learn what he has been doing wrong and how to do it correctly. The third phase is to make the new swallowing pattern a day and night habit through subconscious therapy. The patient is made to become aware of the position of his tongue at specific times of the day. If it is in the wrong position, he is to correct it. There is a specific regimen set out for the three phases of therapy.

At this time let me say it is of paramount importance to establish definite diagnostic criteria to determine the normal and abnormal swallowing patterns. I would also stress that diagnosis remains within the province of the dental practitioner, most frequently the dental specialist.

It is important to establish criteria for the cases to be selected in terms of which cases the treatment of form should precede or be in conjunction with the therapeutic correction of the malfunction of the orofacial muscles, or in which cases treatment of the malfunction of the orofacial muscles should be considered before dental intervention to change the form. As the concepts of the modern dental specialist become more sophisticated, myofunctional therapy becomes an important ancillary in the treatment and solution of dental occlusal problems.

Normal versus Abnormal Swallow

In a normal swallow, the anterior part or tip of the tongue glides against the rugae, the midpoint of the tongue is against the hard palate, and the posterior part of the tongue is tilted at a 45 degree angle with the posterior part against the pharyngeal wall. In the deviate swallow the tip of the tongue is either against or between the teeth, the midpoint of the tongue is collapsed or extended unilaterally or bilaterally, and the posterior part of the tongue is elevated against the posterior part of the palate, giving a reverse swallow.

In normal musculature movement, the tongue glides against the rugae, the masseters are fixed, the mentalis is passive, and the orbicularis oris moves with a force against the upper dentition. In an abnormal swallow, the tongue rests against the dentition, there may or may not be any movement of the masseters, the mentalis is active (giving a peach stone appearance), and the orbicularis oris has little or no movement against the dentition or it may move with too much force against the upper centrals.

The average individual swallows approximately twice per minute when he is awake and once per minute when he is asleep for an average of 2000 swallows every twenty-four hour period. The average force of this intermittent swallowing varies from 1½ to 6 pounds for 1/10 to 1/5 of a second, giving an average of 4 pounds. The tongue can act as an impeding force, impeding the eruption of the dentition, as a movable force moving the dentition, or as both an impeding and a movable force. The place-

ment of the tongue between the dentition prevents the masseter from activation. Further, if the tongue protrudes beyond the anterior teeth, it prevents the lips from moving posteriorly against the dentition. Thus you can see that the tongue is the lead muscle and with its apex of force, can act in three ways.

You will remember that at the start of this presentation I stated that the name of the game is occlusion. The real importance of orofacial muscle imbalance is that resultant changes in the occlusal relationship due to the added stress of abnormal orofacial muscle function will not permit an existence of a normal and stable occlusal relationship. Therefore, continued malocclusion in addition to the aberrant muscle forces can lead to accelerated and severe dental problems.

Recognition of the Deviate Swallow

There are certain basic diagnostic signs used to recognize and diagnose the deviate swallow. General observations include the following:

1. Is there a tongue protrusion and an opening of the lips when the patient is in repose?
2. Is the patient an habitual mouth breather? Mouth breathers habitually place the tip of the tongue against the lower anterior teeth or between the teeth. This position provides air space for oral breathing.
3. Does the patient suck his thumb, fingers, knuckles, lips, or his blanket?
4. Does the patient exhibit a thick upper lip and a rounded pattern to his lips?
5. Does the patient exhibit an overdeveloped mentalis muscle because of its hyperactivity?
6. Is there a noticeable speech defect such as an interdental or lateral lisp?
7. Does the patient exhibit a facial grimace during the act of swallowing?

In addition, the following observations are made during the clinical examination:

1. Is there a high and narrow palatal arch?
2. Is there an ankylotic tongue?
3. Is there a foreshortened frenum?
4. Are the rugae sharply defined?
5. What is the status of the patient's occlusion?

Conclusion

Myofunctional therapy is attracting increasing attention as a valuable adjunct to dental care. The importance of occlusion to good dental health is well understood and it is the dental practitioner's responsibility to effect occlusal change when necessary. Committantly, the correction of orofacial muscle imbalance and the abnormal swallow will help to provide an environment in which the teeth can be moved and retained in their new position.

(Presentation to dental assisting students at Malaspina College in Nanaimo, B.C.)

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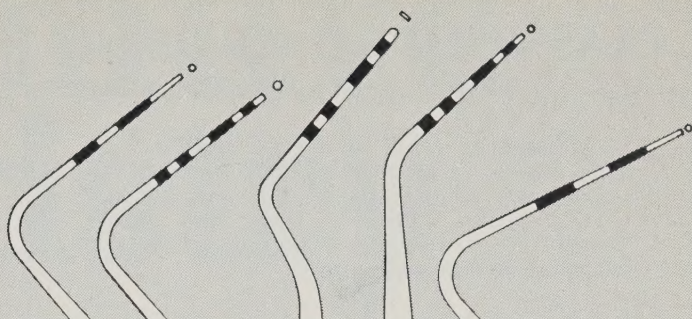
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- | | | | | |
|------|------|------|------|-------|
| 1. a | 2. d | 3. b | 4. a | 5. c |
| 6. e | 7. c | 8. d | 9. a | 10. c |

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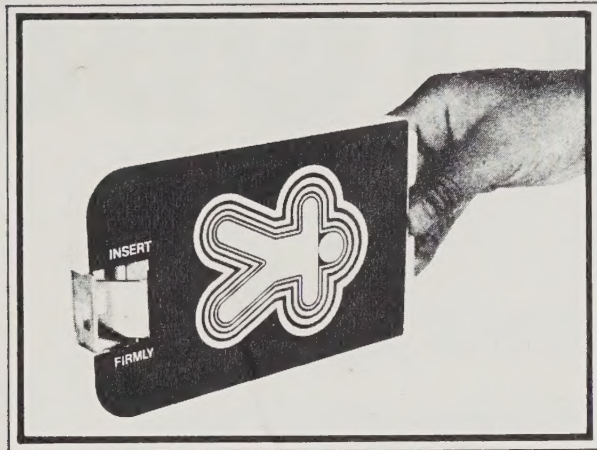
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Public Service Commission

544 Michigan Street, Victoria, B.C. V8V 1S3

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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1977 HIVER

VOLUME 11, No. 4

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$10 per year in Canada and \$12 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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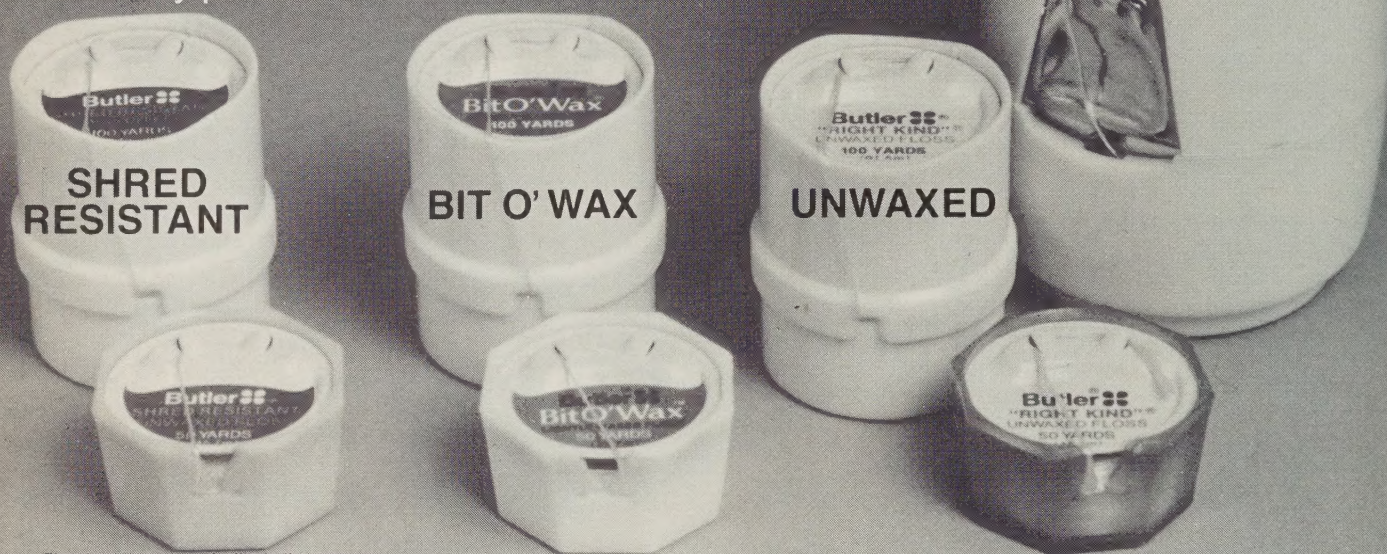


MEMBER PUBLICATION
AMERICAN ASSOCIATION OF DENTAL EDITORS
617 6/CN ISSN 0008-3380

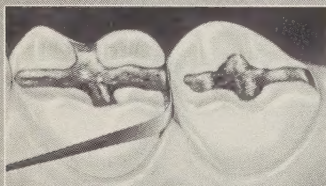
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CONVENTION '77

Toronto, Ontario was the venue of the 14th Annual Convention of the CDHA which was held in conjunction with the 65th Annual World Dental Congress of the Federation Dentaire Internationale. The theme of the convention was "Transition '77: The Challenge of a Changing Career" and the variety of lectures, clinics and discussions offered something of interest to all those who attended.

Prior to the Annual Session, key leaders of the CDHA had a unique opportunity to build their leadership skills at a one and one-half day conference. This workshop, which was designed for those actively involved in Association work as well as those who wish to contribute to their profession by greater participation in Association activities, was facilitated by Mary Jane Kolar, Director of Education, and Barbara Byrd, Assistant Director of Education for the American Dental Hygienists' Association.

Those attending the conference had an opportunity to practice effective leadership techniques including goal setting, group interaction in both large and small group sessions, gaming, brainstorming, and problem solving. It was hoped that participation in such learning activities would serve to deepen interest in the Association and increase real involvement in seeking solutions to those problems facing the profession of dental hygiene.



Leadership workshop facilitators Mary Jane Kolar and Barbara Byrd.



Small group interaction during leadership conference.



Diane Girardin, Louise Gosemick, Carol Worobey, Lorraine Brouillard, Brigitte Arends.



CDHA President Jane Costigane with CDA President Dr. M. Cipton.

In addition, the following observers were in attendance: Jo Gardner, CDHA Membership Committee Chairman; Carol Kline, CDHA Manpower and Utilization Committee Chairman; Pat Johnson, CDHA Long Range Planning Committee Chairman; Ailsa Wood, Bookkeeper; Sherita Clark, Convention 1977 Chairman; Joanne Mitton, Christine Robb, New Brunswick; Dianne Bryant, Saskatchewan; Brigitte Arends, Louise Gosemick, Quebec; Diane Girardin, Manitoba; Janet Woodgate, Fern Bowler, Ontario.

The lengthy agenda was discussed and the following summary highlights some of the actions taken.

- The project for the CDHA Community Dental Health Committee will again be the lapel buttons with a message promoting good dental health for use during Dental Health Month 1978. These buttons will be produced in both English and French and will be available to all members of the dental health team.
- The Executive Council has been directed to investigate problems relating to licensure and practice including eligibility for membership in this Association of graduates



Pat Johnson, new CDHA Life Member.

from non-accredited dental hygiene programs.

- Pat Johnson of Aurora, Ontario, was made a Life Member of the Association in acknowledgement of her contributions and dedication to the profession of dental hygiene. Pat is a past president of both the ODHA and the CDHA and has served in many capacities at the local, provincial and national levels.
- Chapter I, Section 5 and Chapter VII, Section 2 of the CDHA By-laws were deleted. (Please make these changes in your personal copy of the Constitution and By-laws.)

CDHA BOARD TRANSACTIONS

The CDHA Board of Directors convened for the 14th Annual Meeting in Toronto, Ontario, October 22 and 23, 1977. Members of the Board present were: Jane Costigane, President; Carol Worobey, President-elect; Iris Gold, Immediate Past President; Jeannie Beadie, Secretary; Elaine Good, Treasurer; Deanna Silver, Nova Scotia Delegate; Rhona Ruben, New Brunswick Delegate; Jean MacLean, Prince Edward Island Delegate; Lorraine Brouillard, Quebec Delegate; Linda McCance, Debbie Lang, Sharon Sample and Denise Feller, Ontario Delegates; Sandra Lemoine, Manitoba Delegate; Marge Bailey, Saskatchewan Delegate; Brenda Walker and Susan Monument, Alberta Delegates; Mary Bland and Joan Voris, British Columbia Delegates. Marjorie Dimitri acted as Speaker for the meeting.

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The proposed amendment to the BCDHA By-laws was approved. Doug Gordon of Graphic Media Consultants was approved as business administrator for the publication of the journal.

A donation not to exceed \$1500 was approved to support the CDA accreditation program if requested.

It was announced that the CDHA has been selected to host the 7th International Symposium on Dental Hygiene to be held in Vancouver, July 25 to 28, 1979. Joan Voris will be the chairman of this meeting.

Provinces are encouraged to invite a member of the Board of Directors to participate in seminars designed to promote the CDHA and to identify specific needs of the general membership which can be referred to the Long Range Planning Committee for consideration and action.

The nominations slate was approved as amended. (See CDHA Directory 1977 - 1978 in this issue.)

"Dental Hygiene: A Life-long Commitment" was selected as the overall goal for Association activities.

A leadership workshop for members of the Executive Council, provincial delegates to the Board of Directors, committee chairmen, appointive officers and other interested dental hygienists will be held in conjunction with the 1978 meeting in Winnipeg.

The 1979 Annual Meeting of the Board of Directors and the scientific session will be held in conjunction with the 7th International Symposium on Dental Hygiene.

The annual donation to the Canadian Fund for Dental Education has been increased to \$1.50 per member as of June 1st of each year.

A position statement endorsing baccalaureate degree programs for dental hygienists was approved.

Constituent associations in those provinces which have dental hygiene programs will be encouraged to sponsor student table clinic competitions, the winners of which are eligible for a draw for an all expenses paid trip to the annual CDHA scientific session.

In the future, the amount of the non-member registration fee for attending scientific sessions will be twice that of members of the Association.

The Executive Council has been directed to seek applicants for the position of Executive Secretary of the Association.

The complete agenda book and the minutes of the Annual Meeting are on file with members of the Executive Council, provincial delegates to the Board of Directors, and CDHA Committee Chairmen.

MARCH 1, 1978 DEADLINE FOR CFDE TEACHER TRAINING FELLOWSHIPS

Applications are invited for teacher/researcher training fellowships, it has just been announced by the Canadian Fund for Dental Education.

The deadline for filing applications is March 1, 1978. Forms and additional information may be obtained from the dean's office in any Canadian dental school or the Canadian Fund for Dental Education, Suite 205, 44 Eglinton Avenue West, Toronto, Ontario M4R 1A1.

Conditions

Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry or a school of dental hygiene. Preference will be given to those applicants who will return to a **full-time** teaching/research position. Minimum commitment in this regard is two days per week. A fellowship recipient is obligated to give a year's full-time service to a school for each year of full fellowship support or a year's half-time service for each year of half fellowship support.

Each fellowship is for one year of study at the graduate level. The fellowship may be renewed if progress is satisfactory.

The value of the fellowships will be determined annually by the Advisory Committee on Fellowship Selection and the Board of Trustees.

MALPRACTICE INSURANCE FOR DENTAL AUXILIARIES

A new broad form of malpractice insurance for dental auxiliaries was developed in 1974 and coverage was automatically extended to all employees of a dentist insured under the Canadian Dental Association Plan including dental hygienists, registered dental nurses/assistants and therapists. However, for those auxiliaries who may be working for a dentist or dentists who do not participate in the program, or who are employed in the dental public health field and not, technically, under the direct control and supervision of a dentist, an individual malpractice policy is recommended. The cost of such a policy is \$20.00 per year and coverage may be obtained by sending your name and address along with a cheque to:

Canadian Dental Service Plans, Inc.
230 St. George Street
Toronto, Ontario M5R 2P1



Sherry Duncan

CANADIAN HYGIENIST WINS ADA PREVENTIVE AWARD

Sherry Duncan of Calgary, Alberta, was the recipient of one of two meritorious awards of \$300 in the sixth annual American Dental Association Community Preventive Dentistry Awards program. She won the award for establishing a dental health education program on Tortola, an island in the British Virgin Islands with no preventive dental services or school dental health education program. (See article in this issue.)

DENTAL HYGIENE SECTION OF ACFD APPROVED

The Executive Council and House of Delegates of the Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada, recently accepted the application from the Dental Hygiene Educators for Section status. The first organizational meeting of this group was held during the annual CDHA meeting in Toronto in October.

BOARD ENDORSES POSITION STATEMENT

At the recent Annual Meeting of the CDHA, the Board of Directors approved the following position statement on degree programs for dental hygienists:

"In Canada, there are many employment opportunities for dental hygienists with education beyond the diploma level. To this end, the CDHA endorses the establishment of degree programs for dental hygienists, such programs to be offered in association with a faculty of dentistry whenever possible.

By offering such programs, institutions will be responding to an identified need and will be providing employable dental hygienists who possess additional specialized education in the areas of dental and dental auxiliary education, public and community dental health, organization and administration, and basic and clinical dental sciences. It can also be anticipated that by providing such health care personnel, there will be increased emphasis on the prevention of dental diseases."



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QUE LES CANADIENS VRAIENT SAVOIR SUR LES RÉALES DU PETIT DÉJEUNER

M. Marc Lalonde, ministre de la Santé nationale et du Bien-être social et Tony Abbott, ministre de la Communication et des Corporations, ont rendu publique une recommandation voulant que la quantité totale de sucre des autres agents édulcorants soit indiquée sur l'étiquette des céréales pour le petit déjeuner. Cette quantité sera exprimée en pourcentage du poids total du produit. Une lettre contenant cette recommandation a été adressée à tous les fabricants de céréales pour le petit déjeuner par la Direction générale de la protection de la santé, du ministère de la Santé et du Bien-être social. Cette lettre fait aussi état de la teneur minimale qui serait requise en vitamines et en minéraux dans ces mêmes produits.

La Direction générale vient de terminer une étude sur la teneur en sucre des céréales canadiennes pour le petit déjeuner. L'analyse a porté sur 74 produits et les résultats indiquent que le sucre (saccharose) ajouté représentait jusqu'à approximativement 56% du poids des céréales. Certains aliments composés presque exclusivement de sucre, comme les friandises et les boissons gazeuses, se reconnaissent facilement, mais les Canadiens ne sont peut-être pas conscients de la forte teneur en sucre de certains aliments fabriqués, comme les céréales pour le petit déjeuner.

M. Lalonde a fait remarquer que la consommation excessive de sucre est liée à la carie dentaire, un problème sanitaire largement répandu au Canada.

Le Rapport dentaire de Nutrition Canada, publié récemment, attirait l'attention sur l'effet néfaste qu'exerce la carie sur la santé dentaire des Canadiens. La saccharose joue un rôle important tant dans la formation de la plaque dentaire que dans l'activité métabolique des bactéries buccales qui provoquent la carie dentaire. À cet égard, les aliments sucrés collants sont particulièrement néfastes.

De nombreux adultes Canadiens sont obèses, absorbant plus de calories qu'ils n'en dépensent. Pour prévenir ou réduire cet état, on suggère habituellement de diminuer la consommation globale d'aliments et d'augmenter l'activité physique. Lorsque l'apport en calories est réduit, les aliments riches en éléments nutritifs prennent une importance accrue.

Plusieurs aliments composés principalement de sucre n'ont qu'une faible valeur en vitamines, minéraux et protéines, et on doit restreindre la consommation de ces aliments.

CANADIANS TO KNOW MORE ABOUT THEIR BREAKFAST CEREALS

National Health and Welfare Minister Marc Lalonde and Consumer and Corporate Affairs Minister Tony Abbott recently made public a proposal that the labels on breakfast cereals declare the total amount of sugar and other sweeteners, as a percentage of the total weight of each cereal. The proposal is contained in a letter sent to all manufacturers of breakfast cereals by the Health Protection Branch (HPB), Department of National Health and Welfare. The letter also includes proposals for mandatory minimum content of vitamins and minerals that would be required in cereal products.

A survey of the sugar content of Canadian breakfast cereals was recently compiled by HPB. Seventy-four cereals were analyzed and the results indicated that sugar represented up to approximately 56 per cent of the weight of some cereals. Certain foods which are mostly sugar, such as candies and soft drinks, are easily recognized but Canadians may not be aware of the large amount of sugar in some manufactured foods, such as certain breakfast cereals.

Mr. Lalonde noted that unwise use of sugar is linked to dental caries, a widespread health problem in Canada.

The recently released Nutrition Canada Dental Report has drawn attention to the extent to which caries has affected the dental health of Canadians. Sucrose is of major importance in both the formation of dental plaque and the metabolic activity of oral bacteria which leads to dental caries. Sticky, sweet foods play a particularly undesirable role in this respect.

Many adult Canadians are overweight, their intake of calories being greater than the calories they use. A general reduction in the intake of food and increased physical activity are usually advocated to prevent or treat this problem. When caloric intakes are reduced, those foods which are good sources of nutrients take on increased importance. Foods that are mostly sugar are likely to be low in vitamins, minerals and protein; the intake of such foods should be limited.

Sugar Content of 74 Canadian Breakfast Cereals/Contenu en sucre de 74 céréales canadiennes pour déjeuner

Per cent of Weight/ Pourcentage du poids

0 - 4.9

Puffed Rice (Quaker)
Oatmeal, Quick Cooking (McNair)
Oatmeal, Quick Cooking (Quaker)
Shredded Wheat, Spoon Size (Nabisco)
Cream of Wheat, Regular (Nabisco)
Puffed Wheat (Newport)

Puffed Wheat Peter Pan (Quaker)
Oatmeal, Instant (Quaker)
Shredded Wheat (Quaker)
Oatmeal, Instant (Robin Hood)
Puffed Wheat (Quaker)
Cream of Wheat, Mix 'n' Eat (Nabisco)
Oatmeal, Instant (Quaker)
Shredded Wheat, Malt Flavoured (Quaker)
Red River Cereal (Maple Leaf)
Shredded Wheat (Nabisco)
Cream of Wheat, Quick (Nabisco)
Oatmeal (Ogilvie)
Grape-Nuts (General Foods)
Cheerios (General Mills)
Wheetabix (Wheetabix)
Wheaties (General Mills)

5.0 - 9.9

Corn Flakes (Kellogg's)
Special K (Kellogg's)
Corn Flakes (General Mills)
Product 19 (Kellogg's)
Bran Flakes (Kellogg's)
Rice Krispies (Kellogg's)

10.0 - 14.9

Grape Nut Flakes (General Foods)
Rice Flakes (Nabisco)
Pep (Kellogg's)
Shreddies (Nabisco)
Raisin Bran (Kellogg's)
All-Bran (Kellogg's)
Granola, Crunchy, with Honey and Almonds (Sunny Crunch)
4 Grain Team (Nabisco)

15.0 - 19.9

Granola (Canadian Cereal Sales)
Harvest Crunch (Quaker)
Bran Flakes (General Foods)
Mini-Wheats, Brown Sugar (Kellogg's)
Buckwheat and Maple, Whole Wheat (Kellogg's)
Granola, Crunchy, with Fruit and Nuts (Sunny Crunch)
Mini-Wheats, Frosted (Kellogg's)
Alpen (Wheetabix)
Granola, with Nuts and Raisins (Canadian Cereal Sales)
100% Bran (Nabisco)
Bran Buds (Kellogg's)
Granola, with Honey and Almonds (Sunny Crunch)
Harvest Crunch, with Apples and Cinnamon (Quaker)
Oatmeal, Instant, with Sugar and Spice (Quaker)

20.0 - 29.9

Oatmeal, Instant, Pre-sweetened (Robin Hood)
Granola, with Raisins (Sunny Crunch)
Oatmeal, Instant, with Apple and Cinnamon (Robin Hood)
Oatmeal, Instant, with Maple and Brown Sugar (Robin Hood)

Oatmeal, Instant, with Maple and Brown Sugar (Quaker)
Golden Honeys (Nabisco)
Oatmeal, instant, with Cinnamon and Spice (Quaker)
Alpha-Bits (General Foods)
Honeycomb (General Foods)

Harvest Crunch, with Raisins and Dates
(Quaker)

30.0 - 39.9

Oatmeal, Instant, with Raisins and
Spices (Quaker)
Sugar Crisp (General Foods)
Trix (General Mills)
Frosted Flakes (Kellogg's)
Captain Crunch (Quaker)
Cocoa Puffs (General Mills)
Lucky Charms (General Mills)
Froot Loops (Kellogg's)

RESTRICTIONS ON SACCHARIN IN DRUG PRODUCTS RECOMMENDED

Health and Welfare Minister Marc Lalonde has announced that he has received recommendations from an expert committee regarding the use of the artificial sweetener saccharin in drugs and cosmetics.

Members of the expert committee were chosen on the basis of consultation with professional associations of medicine and dentistry. The committee recently met in Ottawa and made the following major recommendations:

- 1) Saccharin has been shown to be carcinogenic in animals and must therefore be presumed to be a potential carcinogen in man. The degree of risk cannot be determined precisely but is considered to be of such a level that where use of saccharin is unavoidable in drugs used to treat serious diseases, its continued use should be allowed.
- 2) Saccharin should be permitted for use as a sweetening agent when used in minimal quantities in 'Prescription-only' drugs of significant therapeutic importance. This exemption will only apply where no acceptable alternative formulation exists, and where reformulation has failed to produce a product of sufficient acceptability to ensure the compliance of patients in following the necessary dosage regimen. The only types of drug formulation likely to meet these requirements are those taken in liquid form or as chewable tablets. These are essentially formulations intended for young children who are unable to swallow tablets or capsules. Individual evaluation of each product would be made by the Health Protection Branch.
- 3) Those mouthwashes and toothpastes which are currently considered to be cosmetics under the Food and Drugs Act, should be considered as drugs for the purpose of determining the date of implementation of the restrictions on the use of saccharin.
- 4) The committee also strongly recommends that saccharin or saccharin-containing products should not be

taken by pregnant or lactating women.

The Health Protection Branch has taken these recommendations under advisement for the development of regulations governing the use of saccharin in drugs and cosmetics.

RESTRICTIONS SUR L'USAGE DE LA SACCHARINE DANS LES MÉDICAMENTS

M. Marc Lalonde, ministre de la Santé nationale et du Bien-être social, a annoncé aujourd'hui qu'un comité d'experts lui a remis une série de recommandations relatives à l'usage de la saccharine comme agent édulcorant artificiel dans les médicaments et les cosmétiques.

Les membres du comité d'experts ont été nommés à la suite de consultation auprès des associations professionnelles de médecine et d'art dentaire. Le comité s'est réuni récemment à Ottawa et ses principales recommandations se lisent comme suit:

- 1) Comme il a été démontré que la saccharine est un agent cancérigène chez les animaux on présume conséquemment qu'elle est également dangereuse pour l'homme. Bien qu'on ne puisse déterminer exactement le degré de risque, celui-ci permet de croire que l'usage de la saccharine, lorsqu'elle se révèle indispensable dans le traitement des maladies graves, devrait être permis.
- 2) On doit permettre l'usage, en quantités infimes, de la saccharine comme agent édulcorant dans les médicaments de prescription d'une certaine importance thérapeutique. Cette exception ne s'appliquera que lorsqu'une formule de rechange n'existe pas ou lorsqu'une modification de la formule ne réussit pas à rendre le produit suffisamment acceptable pour s'assurer que les malades respecteront la posologie recommandée. Seuls les médicaments qui se présentent sous forme de liquide ou de comprimés mastiquables satisferont vraisemblablement à ces exigences. Ces formes posologiques sont principalement destinées aux jeunes enfants incapables d'avaler des comprimés ou des capsules. La Direction générale de la protection de la santé effectuera une évaluation particulière pour chaque produit.
- 3) Ceux des rince-bouche et dentifrices actuellement considérés comme des cosmétiques en vertu de la Loi sur les aliments et drogues devraient être considérés comme médicaments aux fins de l'entrée en vigueur des restrictions relatives à l'usage de la saccharine.
- 4) De l'avis du comité d'experts, il est

fortement déconseillé aux femmes enceintes qui allaitent, d'ingérer de la saccharine ou tout autre produit qui en contient.

La Direction générale de la protection de la santé a pris bonne note de ces recommandations et en tiendra compte dans l'établissement des règlements qui régiront l'usage de la saccharine dans les médicaments et les cosmétiques.

CLASS REUNION PLANNED

A class reunion for 1969 dental hygiene graduates from U. of T. is being planned in conjunction with the ODHA May Convention in 1979. For further information, contact Sharon Pitchford (Stratton), 32 Young Street, Unit 35, Uxbridge, Ontario L0C 1K0 or Gail Ellis (Morris), 15 Gibson Drive, Kitchen-er, Ontario.

CFDE REMINDER

If you have not done so already, there is still time to contribute to the Canadian Fund for Dental Education. All donations received prior to December 31st are tax deductible for 1977 and will be acknowledged with thanks. Send your cheque marked "Dental Hygiene" today to:

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SELF-ASSESSMENT TEST

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

Following is the fourth of a series of self-assessment tests to be published in the 1977 issues of THE CANADIAN DENTAL HYGIENIST. The questions have been taken from Shailer Peterson's COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS and relate to clinical dental hygiene practice.

Each of the questions is followed by four or five possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 92 for the correct answers.

1. Occlusal traumatism is considered to participate in the development of the periodontal lesion *plaque → primary*
 - a. as the primary initiating factor.
 - b. as a non-participating factor.
 - c. as a contributing or modifying factor.
 - d. as being important only when bruxism is present.
2. By what means may the acute periodontal abscess be differentiated from a periapical abscess?
 - a. Transillumination
 - b. Pulpal vitality testing
 - c. Palpation
 - d. Radiographic examination
3. Within the first 24 hours of formation, plaque does not contain
 - a. bacteria.
 - b. desquamated tissue cells.
 - c. mucin.
 - d. calcium phosphate.
4. What microorganisms of plaque are responsible for production of dextrans, which are sticky, gummy binders?
 - a. Staphylococci
 - b. Diplococci
 - c. Spirochetes
 - d. Streptococci
5. What does the technique for the detection and measurement of tooth mobility require?
 - a. Heavy pressure and luxating motions
 - b. Bidigital pressure to feel slight displacement

- c. Vertical and buccolingual tooth displacement
- d. One tooth on each group to be tested for hypermobility
6. Which of the following is not a clinical sign of chronic periodontal disease?
 - a. Presence of pockets
 - b. Bleeding
 - c. Heavy subgingival deposits
 - d. Sudden pain
7. An aim of periodontal therapy is to recreate physiological contours because of which reason?
 - a. Plaque does not cause disease until it hardens.
 - b. Plaque formation stops when calculus mineralizes.
 - c. Plaque can be removed if accessible.
 - d. Plaque is a mechanical irritant of the gingiva.
8. Instruments for root scaling and planing are selected in accordance to
 - a. size and location of deposits.
 - b. pocket shape and depth.
 - c. retractability of pocket wall.
 - d. size of the interproximal space.
 - e. all of the above considerations.
9. The purpose of removing the ulcerated lining of the pocket wall is to achieve what?
 - a. A leathery gingival texture
 - b. Shrinkage of pocket wall
 - c. Increase of gingival resiliency
 - d. Increase of width of attached gingiva
10. Which of the following is not an advantage of ultrasonic scaling?
 - a. Increased patient comfort
 - b. Reduced operator's time and effort
 - c. Increased tactile sense and visibility *x*
 - d. Lavage cleansing action of the field of operation

The 3rd edition of COMPREHENSIVE REVIEW FOR DENTAL HYGIENISTS, edited by Shailer Peterson, provides an all-inclusive and function-oriented review of dental hygiene and is a worthwhile reference for all graduates. In addition to providing information on most subject areas, it includes many multiple choice questions which may be used to test comprehension and knowledge. This text is available from the C.V. Mosby Company, 86 Northline Road, Toronto, Ontario M4B 3E5.

JOAN S. VORIS, Chairman
CDHA Education Committee

NUTRITION CANADA: DENTAL REPORT

The Nutrition Canada Dental Report was released by the Department of National Health and Welfare last July. This Report is based on data collected in 1970-72 as part of the Nutrition Canada National Survey. Over fourteen thousand individuals of all ages were given medical and dental examinations and a dietary interview. Also included were biochemical determinations on blood and urine. The limitations of the survey (e.g. sample sizes, examine error, response rates — only 46% for the national population) are clearly documented in the Report; nevertheless it was possible to make some qualified conclusions.

As is well known, dental caries is the leading cause of lost teeth before age 35. Of adults 19 and over who still had one or more natural teeth, 96.1% had tooth decay. Young women have a more serious problem with dental caries. Only 1% of women, aged 20-29, who had teeth, were caries-free, compared to 4.4% of the men. Of the young women in this age group, 5.8% had no natural teeth at all compared to 4.8% of the men.

Even in provinces where many of the younger children were caries-free, resistance to tooth decay had been lost by the end of adolescence, and only 1.5% of the 16 to 18 year old group was caries-free. However, Ontario had the best caries-free rate both for deciduous teeth in the 3-10 year old group and for permanent teeth in the 6-18 year old group. Neither income area nor population density affected the percentage of persons with caries-free permanent teeth.

Nationally, 35.7% of children in the 4 to 6 year old group had zero def teeth with the percentage caries-free being distinctly lower for Indians and for the Maritimes except for Nova Scotians. A similar pattern showed up in the mean def's with the national mean def being 3.7, the Indian 8.2, Newfoundland 7.3, Prince Edward Island 6.7 and New Brunswick 6.1. The pattern is repeated when one looks at the percentage of the same age group with 10 or more def teeth (6.9% nationally, approximately 40% Indian, Newfoundland, and Prince Edward Island). Although the

caries-free 4-6 year old group was no greater in any income area, the percentage of these children with def scores of 10 or more was 14.4% in "low" income areas but only 5% in "other" income areas. Thus small children in low income areas had, generally, poorer teeth than those children in higher income areas.

The 4-6 year old group also fared better when they were located in a metropolitan versus an urban or rural area. The percentage of the children with def's of 10 or more for the 4-6 year old group in metropolitan areas was 2.5%, compared to 7.8% in urban and 11.3% in rural areas. The better dental health in metropolitan areas could be due to fluoridation of some metropolitan water supplies and a better ratio of dental manpower to population than urban and rural areas.

The age group 12 to 14 was selected as the best group for comparison of children's permanent teeth. As with the 4-6 year old, the percentage of children with zero DMF teeth appeared unrelated to income area, but the percentage of children with 10 or more DMF teeth was 44.6% in the "low" income group and 30.5% in the "other" income areas.

Severe gingivitis in young children appeared to be confined to Indians and Eskimos but it was quite common in teenagers and adult groups. In the national age group 19 and over, about 25% had severe gingivitis, and approximately 15% had obvious periodontal pockets and loose teeth. The percentage of persons requiring treatment to remove calcareous deposits from at least one tooth increased for the national group from 19% of the 8 to 10 year olds to 90% of the 50 to 59 year olds. The percentage of persons requiring treatment to remove calculus was significantly higher in "low" income areas.

Tooth loss was both severe and extensive. In the respondents 19 years of age and over, 24% were edentulous in both arches, 16% had no upper teeth and 1.0% had no lower teeth. A total of approximately 40% were edentulous in one or both arches.

considerable number of persons had insufficient teeth for mastication. For example, about 60% of the 10-59 year old group had insufficient upper teeth for mastication, ranging in females from over 80% in Newfoundland, Quebec and the Indian communities surveyed to a low of 46.2% in Alberta.

With respect to malocclusion, in the national group aged 3-18 years, 20.8% had overjet, 1.7% had openbite and 27.4% had overbite. Approximately 1% were biting into soft tissue. 16.7% of the 8 to 10 year olds had a serious to urgent need for orthodontic treatment.

Approximately 50% of the sample had visited the dentist within the year previous to the survey. This was a marked improvement over the 1940's Canadian Health Survey results of 30% and the Statistics Canada Labour Force Survey figure of 42% in 1967.

Despite the improved frequency of visits to the dentist, the survey indicated that there is a massive backlog of carious teeth needing restorations and that this poses an insurmountable problem to the current dental manpower resources of Canada. For example, the age group 3 to 18 years, had an average requirement of 2.4 restorations per person.

The average number of dental extractions required, other than for orthodontic requirements, was 0.4 per person over 3 years of age. 3.8% of the persons 19 and over who were edentulous in both arches did not have full dentures in place. The main reason stated for not wearing dentures in Quebec, the Maritimes and the native populations was because they had none. In contrast, the majority of the group in Ontario and the West stated they could not wear the dentures they had.

25% of adolescents 12-14 had a definite malocclusion with treatment elective, nearly 13% showed a serious need for treatment and a further 10% had an urgent need for treatment of a handi-capping condition.

As stated in the Report, future dental requirements, as well as the tremendous backlog of unmet dental problems, can only be dealt with successfully by a combination of sustained preventive and treatment plans. Some provinces are instituting or have instituted dental care plans (Newfoundland, Nova Scotia, Prince Edward Island, Quebec, Manitoba and Saskatchewan). Most provinces are concentrating on the child population although Alberta has insured dental services for those over age 65. Emphasis should be placed on fluoridation of public water supplies, nutrition and public education programs. Dental disease knows no boundaries and its prevention requires national effort.

Sharon B. French, M.S., R.D.H.

Copies of the Nutrition Canada Dental Report are available from the Bureau of Nutritional Sciences Food Directorate, Health Protection Branch, Department of National Health and Welfare, Ottawa.

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BRITISH VIRGIN ISLANDS

DENTAL HEALTH PROGRAM 1977

SHERRY DUNCAN, R.D.H.

Ms. Duncan is a graduate of the University of Alberta and is currently involved in office practice and part time studies in Calgary.

During the spring of 1975, I spent five weeks on Tortola in the British Virgin Islands. While there, I noticed that the dental health of the population was poor. Children in particular had a large number of missing teeth. The area's only dentist, a young Britisher employed by the Public Health Department, was practising none of the modern preventive measures nor did he seem interested in such procedures. On the other hand, the head public health nurse, Miss Tatica Scatliffe, expressed concern about the lack of dental health education in the school system. Her major problem was lack of Funds: the 1975 budget allowed only \$100 for dental health education for the island's 3,000 school children.

Tortola's population including the outer islands is 14,000. The diet is very starchy because fresh milk, fruits, vegetables and meat are imported and financially unfeasible for the average annual family income of \$2,000. Fifty percent of the school children own their own toothbrushes and ninety-five percent are missing one or more teeth. The government dentist estimated that he extracts approximately 2,000 teeth each year from the 3,000 students.

The following winter, I met with three former classmates and we drew up a three-stage dental health program for Tortola based on studies carried out in the United States. Stage I involved a dental survey of a percentage of the school population of Tortola to establish a DMF rate. These statistics could be used for a future follow-up of the program and would aid in evaluating its degree of success.

Stage II was the practical and theoretical dental health instruction to be carried out in classrooms with groups of teachers and public health nurses. This was to be the essence of the project: to make the island's educators aware of their own dental health and to show them how to teach dental health education in their schools.

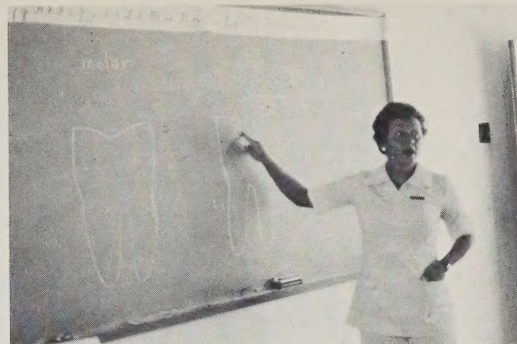
Stage III was classroom instruction involving some of the twenty-four primary schools and one high school. This stage was to be continued as long as time allowed.

In May of 1976 I flew to Swift Current, Saskatchewan to present the program to Mr. Harold Allen, the 1976 Governor of Rotary International, District 536. His executive accepted the program as their International Project for 1976 and agreed to fund it to its completion. I then met with Mr. Don Sinclair of Edmonton who was chairman of Rotary's World Community Service Committee and acted as liaison for Mr. Allen and the dental health program. At this time, Mr. Sinclair's primary concern was that the program be on-going. Although two hygienists would be sent to Tortola for three months as resource personnel and educators, it was imperative that the program continue after they returned home. Therefore, we included a Stage IV in the program: an individual from the B.V.I.'s would be sponsored as a student at the Southern Alberta Institute of Technology to attend the nine month course in intraoral dental assisting. Such a person upon graduation would have a background in preventive dentistry including plaque control, prophylaxis, topical fluoride applications, and diet counselling.

During the summer of 1976, two hygienists, Susan Sheppard and Joanne Clovis, were selected to parti-



Susan with nurses.



Joanne instructs class.



Classroom instruction.



Susan, Sherry and Joanne, March 1977.

participate in the program. Susan had eight years experience with the Calgary Dental Health Department and was invaluable in helping me to order our supplies. Joanne had taught school for several years in the Arctic and enjoyed working with cross-cultural groups. With her teaching experience, we were able to organize a more effective program for the classroom environment.

The Rotary Club in Roadtown, Tortola agreed to co-operate as well. In January of 1977, Susan and Joanne flew to Tortola for three months stay. During the first month, they observed the public health department and surveyed 1800 children using the DMF Index. Each evening they compiled their statistics of the day and made a list of those children who needed immediate attention for dental problems. They also noted a high incidence of malocclusion.

In February, Susan's slide projector finally arrived air freight (it took 28 days) and the hygienists had practical sessions with the 46 nurses and 156 school teachers on Tortola. The theory involved slides on periodontal problems, decay, crowding problems and a 35 mm film on oral hygiene. Each person received a home care kit with floss, toothbrush, disclosing tablet and mouth mirror. Hand mirrors were also distributed during the practical sessions. These sessions plus additional ones in the outlying islands required about five weeks.

The remaining time was spent in classroom instruction during which Susan and Joanne tried to reach all

students on Tortola. Each class, whether primary, junior high or high school, received information about plaque, teeth and diet. Toothbrushes and disclosing tablets were issued to each child and hand mirrors were shared. Dentoforms were used and the teacher worked with the hygienists in helping the students to brush their teeth and gums properly.

Although not covered by Rotary expenses, I undertook a three week trip to Tortola in March to keep abreast of the program's progress and to assist in the preparation of the final report to the B.V.I. government. As a continuation of the program, the Tortolan government's dental assistant is spending nine months studying in Canada and will return to Tortola to become a dental health educator for the public health department.

In March we also learned that a native Tortolan was being sponsored at a dental faculty in the U.S.A. and was to graduate in May and become Tortola's public health dentist. This was good news indeed since he will have some preventive dentistry background from which to draw upon, and the dental auxiliary trained in Canada will have a more positive atmosphere in which to teach upon her return.

More than anything else, this experience of creating and implementing a dental health program in the British Virgin Islands has shown me that if someone has a humanitarian idea and is willing to work on it, there is a way to see it through.

A DENTAL HYGIENIST IN NEPAL

HILARY J. SHAW

Miss Shaw is a British dental hygienist who has spent some time working in Canada.

Last September I made my way 'Hippy Style' overland across Europe and Asia to the ancient kingdom of Nepal. A hygienist with strong nomadic tendencies, my aim was to evaluate the dental services in Nepal and, if possible help in the launching of a dental health programme.

My first impression of Kathmandu, Nepal's capital, was of a tourist paradise steeped in the mysticism of the east. My initial exhilaration soon wore off as I came into contact with the squalor, sickness and lack of education of the population as I set about my project.

This was a nation of few resources with everything against it especially where dentistry was concerned. Communications were appalling owing partly to the terrain which stretched from jungle through valley to the highest mountains in the world. There was little money available for dentistry. Chest infections, T.B., hepatitis, leprosy, malnutrition and physical and mental disabilities were rife; therefore, dental health was low on the government priority list. At the time of my visit no financial aid was available from W.H.O., though it is hoped that this will change in the near future. There were only about eighteen dentists to eleven million people in Nepal and most of these were working in Kathmandu. Caste structure and superstition played an important part in the social life of the less educated.

The diet in the Kathmandu Valley was more varied than that of the mountain people; mainly rice, grain, vegetables and fruit and, when it could be afforded some meat and chicken. Very little dairy produce was consumed, but the well-to-do folk were buying western foods in the stores. Since Nepal was opened to the tourists twenty-five years ago sucrose has rapidly

become part of the local diet. I was to discover that the teeth of the younger generation had suffered as a result.

Under the direction of two young and eager dental surgeons government mobile dental clinics were operating. In the most isolated areas the dental surgeons would fly to an airstrip and trek for several days to the more primitive settlements.

I spent many days working in deplorable conditions with these mobile clinics. There were no facilities for conservation, most of the treatments being extractions or scaling to remove local irritants only. The older patients all had periodontal disease and heavy deposits of calculus and plaque. The youngsters had rampant caries and periodontal disease. No regular tooth cleaning was carried out by the people except the chewing of a neem twig, or in the city a toothbrush might be used.

After eventually wading my way through government red tape I obtained permission to fly up to the Everest Region on the Nepalese-Tibetan border. I trekked up to 14,000 feet staying in Kunde Village where there is a small hospital built by Sir Edmund Hillary and manned by a New Zealand doctor, his wife and two Sherpani aides. Whilst I was staying in Kunde I took the opportunity of examining some of the patients who attended the doctor's clinic. I also trekked on up the mountains to Kumjung School, another of Edmund Hillary's projects; it is one of the finest schools in Nepal educationally.

I examined a class of five year olds and also the twelve year olds using the W.H.O. criteria for the charting of diseased, missing and filled teeth. I found little caries, but a poor standard of oral cleanliness, and much periodontal disease. As in the Kathmandu Valley the children's teeth were stained as a result of the indiscriminate prescribing of tetracycline (though not by the New Zealand medical teams).

The Sherpa people are amongst the most privileged in Nepal. They have a high standard of education and are more fit than many of the valley people. This is the result of Edmund Hillary and the New Zealand medical staff. The children receive regular hygiene lessons from one of the hospital workers, each child has a toothbrush — a donation from one of the New Zealand dental companies. I gave the children a simple talk about dental cleanliness and left some posters at the school. I also suggested that the children keep their brushes at the school so that their toothbrushing could be supervised. This is already being carried out.

The Sherpa diet is monotonous: potatoes, rice and vegetables. Most families have a yak for milk, but seldom have meat. There is a lack of iodine in the diet, and goitre and cretinism are common. Unfortunately the children now have access to candies from the ever-increasing parties of trekkers.

When I returned to Kathmandu, I felt very limited as to any help I could suggest. There will certainly be a serious decline in dental health within the next ten years as more sugar is introduced into the diet. Money spent now would be a drop in the ocean compared with funds required at a later date. The younger dental surgeons are working with this in mind. Slowly, more advanced equipment is being imported for use in the government hospitals.

Local Nepalese girls are at present trained in basic hygiene, diet and home care in the higher education college in Kathmandu. Some form of simple dental hygiene should be included in the course for their eventual return to their villages where they are accepted to teach.

Widespread water fluoridation is impossible since few communities have piped water. In the present circumstances some kind of regular fluoride therapy could be employed if funds permitted, followed up by a vigorous dental health education campaign amongst groups of children in the care of western staff. Possibly this would be practical in the mission

schools, the child care charities and in the school in Kumjung. Here they could receive the necessary supervision. A combination of these measures in selected areas could reduce the caries rate quite considerably.

Above all, Nepal's difficulties are summed up in three words: lack of education. Until more of the population are able to attend school and want to improve their standard of dental health little can be done. However, as general conditions improve and as long as Nepal is training dental surgeons (mostly in India), such as those with whom I worked I am sure a better standard of dental health will come about. Donations of any kind from the more fortunate west, be they posters or toothbrushes, would be gratefully received and used by the Himalayan Trust or the Save the Children Fund.

It is almost too soon to say what was achieved by my visit, for in Nepal, when there is work to be done, next week is always preferable to this week! Possibly, I might have been a catalyst, stimulating the W.H.O. and the dental surgeons to plan a modest dental health programme for the first time. Certainly the dental profession was unaware of what visual and teaching aids are available to educate the children. Also they did not realize that improvements in dental health could be achieved with relatively little money.

Maybe I have been able to give an insight in to Nepal's difficulties in the field of dentistry and spark some interest which could produce assistance from other sources. Whatever the achievements, if any, I have learned how one must recognize and work within one's limitations, and in Nepal's case not to expect too much too soon.

My thanks are due to the Cordent Dental Trust (U.K.) for the generous grant they awarded me and to the Nepalese dental surgeons, the World Health Organization, the Save the Children Fund, the Himalayan Trust and the British Embassy, without whose combined help I could not have worked at all.

LE CONSOMMATEUR ET LES LOIS CANADIENNES SUR LES DROGUES

La Direction générale de la protection de la santé du ministère de la Santé nationale et du Bien-être social est chargée de contrôler l'activité, la pureté et l'innocuité des produits pharmaceutiques au Canada par l'administration et la mise en vigueur de deux lois du Parlement fédéral, à savoir; la Loi sur les aliments et drogues et la Loi sur les stupéfiants (le tableau à la page 2 présente une brève description de chaque loi).

Du point de vue du consommateur canadien, ces lois partagent les médicaments en trois grandes catégories:

- les médicaments grand public (MGP) en vente libre et les spécialités pharmaceutiques
- les produits de prescription
- les drogues d'usage restreint

Médicaments Disponibles Sans Ordonnance

Les médicaments grand public et les spécialités pharmaceutiques sont des préparations médicinales servant à l'auto-médication et qui peuvent être achetée sans ordonnance. Un grand nombre de produits d'usage courant, tels que les médicaments contre le mal de tête, les antiacides, les sirops anti-toux, les laxatifs, etc., entrent dans cette catégorie.

On ne peut vendre les médicaments grand public (MGP) que dans les pharmacies. On peut vendre les spécialités pharmaceutiques ailleurs (par exemple dans les supermarchés), si les lois provinciales le permettent.

La fabrication, l'étiquetage, la publicité et la vente des MGP sont régis par les dispositions soit de la Loi et des Règlements sur les aliments et drogues, soit de la Loi et des Règlements sur les stupéfiants. Autrefois, les spécialités pharmaceutiques étaient contrôlées par la Loi sur les spécialités pharmaceutiques ou médicaments brevetés. Cette Loi a été annulée en 1975, et cette annulation est entrée en vigueur le 1er avril 1977. Selon les Règlements sur les aliments et drogues, Tire 10, on doit maintenant enregistrer ces produits et leur étiquette doit inclure une liste de tous les ingrédients actifs et des quantités utilisées.

Il n'est pas toujours facile pour le consommateur de reconnaître un MGP ou une spécialité pharmaceutique. Ainsi les préparations à base de vitamines et de minéraux, qui aux yeux de beaucoup de consommateurs n'ont peut-être rien à voir avec les drogues, sont bel et bien considérées comme des drogues dans l'optique de la Loi. Les préparations à base de vitamines et de minéraux sont généralement en vente libre, mais celles qui portent la mise en garde "pour usage thérapeutique seulement" ne devraient être utilisées que sur l'avis d'un médecin; d'autre part, celles qui renferment plus de 10 000 unités internationales (UI) de vitamine A ou 1 000 UI de vitamine D deviennent médicaments de prescription et ne peuvent être obtenues que sur ordonnance.

Certains s'étonneront peut-être aussi d'apprendre que même si la plupart des cosmétiques ne sont pas compris dans la définition officielle de ce qu'est une "drogue", les préparations cosmétiques auxquelles on prête des propriétés thérapeutiques sont tenues pour des drogues et sont assujetties aux dispositions concernant les drogues. Par exemple, si la réclame pour un dentifrice mentionne la présence d'un "ingrédient spécial aidant à prévenir les caries", ce dentifrice est considéré comme une drogue et non un cosmétique.

Certaines drogues qui ne peuvent être obtenues que sur ordonnance pour les humains peuvent être vendues sans ordonnance à titre de produits vétérinaires pourvu que:

- la drogue soit sous une forme qui la rende impropres à la consommation humaine et que
- le produit porte sur son étiquette la mention "Pour usage vétérinaire seulement".

Produits De Prescription

Les *produits de prescription* sont ceux que l'on ne peut légalement obtenir que sur ordonnance d'un médecin, d'un dentiste ou d'un vétérinaire. Les risques inhérents à ce groupe de médicaments exigent que leur utilisation s'effectue sous surveillance médicale.

La fabrication et la vente des produits de prescription sont contrôlées par l'application de la Loi sur les aliments et drogues et de la Loi sur les stupéfiants. Les drogues qui ne peuvent être vendues que sur ordonnance sont énumérées à l'Annexe F des Règlements des aliments et drogues, à l'Annexe G de la Loi sur les aliments et drogues, et à l'Annexe de la Loi sur les stupéfiants.

L'Annexe F des Règlements sur les aliments et drogues énumère la plupart des médicaments communément prescrits par les médecins et qui comprennent les antibiotiques, les sédatifs, les tranquillisants et les contraceptifs.

Les *drogues contrôlées* sont des drogues qui, en plus de n'être accessibles aux consommateurs que sur ordonnance comme les médicaments mentionnés à l'Annexe F, font aussi l'objet de restrictions au niveau de la fabrication et de la distribution. Seules les firmes qui détiennent un permis du gouvernement sont autorisées à exercer le commerce des drogues contrôlées. La liste des drogues contrôlées qui figure à l'Annexe G de la Loi sur les aliments et drogues, inclut principalement les amphétamines, les barbituriques et leurs sels et drives. La possibilité d'abus et le trafic illicite pour ce type de médicaments exige que des contrôles particuliers soient établis à leur égard. Le trafic des drogues qui figurent à l'Annexe G, ou la possession de ces drogues en vue d'en faire le trafic, est passible d'une peine maximale de dix ans de prison.

Les *stupéfiants* sont des produits de prescription énumérés à l'Annexe de la Loi sur les stupéfiants. Ils comprennent certains "dérivés, préparations, sels et substances synthétiques analogues" du pavot somnifère (opium, codéine, morphine, etc.), de la cocaïne, du Cannabis Sativa (marihuana), et de nombreuses autres drogues moins connues. Aux termes de la Loi sur les stupéfiants, la possession de toute drogue mentionnée à l'Annexe n'est légale que dans certaines circonstances précisées dans la Loi et les Règlements sur les stupéfiants.

La possession non autorisée d'un stupéfiant constitue une infraction criminelle pouvant entraîner une déclaration sommaire de culpabilité (peine maximale de \$2000 et (ou) emprisonnement d'un an) ou une mise en accusation (peine maximale de 7 ans de prison). Le trafic des stupéfiants, ou la possession de stupéfiants pour fin de trafic, est passible de l'emprisonnement à perpétuité. Les sanctions infligées pour possession de stupéfiants varient suivant la drogue en cause, la nature exacte de l'accusation, et le jugement du tribunal.

Drogues D'usage Restreint

Les *drogues d'usage restreint* sont celles pour lesquelles il n'existe pas d'usage médical connu, et qui ne sont pas accessibles au public. La liste de drogues d'usage restreint figure à l'Annexe H de la Loi sur les aliments et drogues, et comprend les drogues réputées très puissantes mais dont les propriétés et les

effets ne sont pas encore bien établis comme par exemple, le LSD (diéthylamide de l'acide lysergique) et le MDA (3,4-méthylène dioxymphétamine).

Seuls les détaillants détenteurs d'un permis, les chercheurs qualifiés, les analystes officiels, les inspecteurs, les agents de la Gendarmerie royale du Canada et autres agents de la paix ainsi que les personnes désignées par le Ministre sont autorisés à en posséder. Les dangers reconnus liés à l'usage ou à l'abus de ces drogues justifient les peines sévères infligées pour leur possession non autorisée ou leur trafic illicite.

Bibliographie

Loi et Règlements sur les aliments et drogues avec Modifications au 1er avril 1977

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CANADIAN DRUG LAWS AND THE CONSUMER

The Health Protection Branch of the Department of National Health and Welfare is responsible for monitoring the potency, purity, and safety of Canadian drug products through the administration and enforcement of two Federal Statutes: the Food and Drugs Act, and the Narcotic Control Act.

From the viewpoint of the Canadian consumer, these laws divide drugs into three major categories:

- Over-the-counter (OTC) drugs and proprietary medicines
- Prescription drugs
- Restricted drugs

Drugs Available Without A Prescription

Over-the-counter drugs and proprietary medicines are medicinal preparations intended for self-medication which may be purchased without a prescription. Many common products such as headache remedies, antacids, cough medicines, and laxatives, fall into these categories of drugs.

Over-the-counter (OTC) drugs may be sold only in pharmacies. Proprietary medicines may be sold in outlets other than pharmacies (for example, supermarkets) when permitted by provincial laws.

The manufacture, labelling, advertising and sale of OTC drugs are regulated by the provisions of the Food and Drugs Act and Regulations and the Narcotic Control Act and Regulations. Proprietary medicines formerly were controlled by the Proprietary or Patent Medicine Act (PPM Act), which was repealed in 1975, effective April 1, 1977. Proprietary medicines must now be registered under the Food and Drug Regulations, Division 10, and the labels of these products must now include a quantitative list of all active ingredients.

Sometimes it is difficult for a consumer to know what an OTC product or proprietary medicine is. For example, vitamin and mineral preparations, while perhaps not thought of as drugs by many consumers, are considered to be drugs as defined in the Food and

Drugs Act. Vitamin and mineral preparations generally are sold as over-the-counter drugs, but preparations marked "for therapeutic use only" should be used only on the advice of a physician and preparations containing over 10,000 International Units of Vitamin A or 1,000 International Units of Vitamin D may be obtained only on prescription.

It may also surprise consumers to know that although most cosmetics do not fall under the official definition of "drug", cosmetics which make medical claims are classified as drugs and are subject to the provisions concerning drugs. For example, a toothpaste advertised as containing "a special ingredient which helps prevent tooth decay" is considered to be a drug, not a cosmetic.

Certain drugs which are available only on prescription for human use may be sold over-the-counter for veterinary use *if the following conditions are met*:

- the drug must be in a form not suitable for human use; and
- the product must carry the statement "For veterinary use only" on the label.

Drugs Available Only On Prescription

Prescription drugs are those which may be obtained only on prescription from a practising physician, dentist, or veterinarian. Because of the hazards associated with their use, these medications should be taken only on the advice of and under the supervision of a physician.

The manufacture and sale of prescription drugs are controlled through the Food and Drugs Act and the Narcotic Control Act. Drugs required to be sold on prescription are listed in Schedule F to the Food and Drug Regulations, Schedule G to the Food and Drugs Act, and the Narcotic Schedule to the Narcotic Control Act.

Schedule F to the Food and Drug Regulations lists most of the drugs commonly prescribed by physicians including antibiotics, sedatives, tranquilizers and contraceptive drugs.

Controlled drugs are drugs which, in addition to being available to consumers only on prescription like Schedule F drugs, are also restricted at the manufacturing and distribution levels by being available only from firms licensed by the government to deal in them. Controlled drugs are listed in Schedule G to the Food and Drugs Act which lists mostly amphetamines, barbiturates and their salts and derivatives. The potential for diversion and misuse of barbiturates and amphetamines requires that they be subject to special legislative controls. Trafficking or possession of Schedule G drugs for the purpose of trafficking are offences punishable by a maximum penalty of 10 years imprisonment.

Narcotic drugs are prescription drugs listed in the Schedule to the Narcotic Control Act. They include certain "preparations, derivatives, salt and similar synthetic substances" of the opium poppy (opium, codeine, morphine, etc.), coca (cocaine), cannabis sativa (marijuana), and a number of other lesser known drugs. Possession of a narcotic drug is legal only in certain circumstances specified in the Narcotic Control Act and Regulations.

Unauthorized possession of a narcotic drug is a criminal offence which may result in a summary conviction (maximum penalty of \$2,000 and/or 1 year imprisonment) or a conviction on indictment (maximum penalty of 7 years imprisonment). Trafficking in

narcotic drugs or possession for the purposes of trafficking may result in life imprisonment. The actual penalties imposed for possession of narcotics depend upon the drug involved, the exact nature of the charge, and the judgement of the court.

Restricted Drugs

Restricted drugs are those for which there is no known medical use and which are therefore not available to the public. They are listed in Schedule H to the Food and Drugs Act and include drugs which are recognized as being very potent but whose properties and effects are not yet well established, such as LSD (lysergic acid diethylamide) and MDA (3,4-methylenedioxymphetamine).

Possession of these drugs is authorized only for licensed dealers, qualified investigators (for research purposes), official analysts, inspectors, RCMP and other peace officers, and persons appointed by the Minister. Because they are highly dangerous and susceptible to abuse there are severe penalties for unauthorized possession of or trafficking in restricted drugs.

References

- Food and Drugs Act and Regulations, with Amendments to April 1, 1977.
- Narcotics Control Act and Regulations, with Amendments to April 1, 1977.

CDHA/ACHD CONVENTION '78

Proposed Program

Sunday, 10 September 1978

- Afternoon — Registration
- Evening — Opening Ceremonies (with C.D.N. & A.A. and C.D.A.)
Entertainment: "Dutch" Mixer

Monday, 11 September 1978

- Morning — Utilization of three types of operating dental auxiliaries within the Manitoba Children's Dental Plan (dental hygienists who have become dental nurses will be approached to comment)
- Afternoon — Patient education workshop (listen to some good ideas and take a few minutes to try out some ideas for manufacturing aids)
- Evening — Executive "At Home" reception for special guests and the general membership

Tuesday, 12 September 1978

- Morning — Klein and O'Connor: practice management and personnel relations specialists (for the entire dental team)
- Afternoon — Klein and O'Connor (continued)
- Evening — "Super, Fun, Surprise" Evening (all groups)

Wednesday, 13 September 1978

- Morning — Klein and O'Connor (continued)
- Afternoon — Klein and O'Connor (continued)

Plan now to attend the 15th Annual Meeting in Winnipeg, Manitoba!

MISUSE OF TOPICALLY APPLIED FLUORIDES

HERSCHEL S. HOROWITZ, D.D.S. M.P.H.

Herschel S. Horwitz, D.D.S. M.P.H., Dental Director, U.S. Public Health Service, Bethesda, Md. is Chief, Community Programs Section, Caries Prevention and Research Branch, National Institute of Dental Research, National Institutes of Health and Diplomate of the American Board of Dental Public Health.

The August 1976 issue of the *JOURNAL OF THE MARYLAND DENTAL ASSOCIATION* contained a brief case report of a tragic occurrence that deserves our attention.(1) The pertinent section of the report that describes the episode is included herein:

"A three year old male child, prior to dental examination, was found physically fit to undergo dental treatment. He was sent to the clinical dentist who, on examination, found no caries. In view of this clinical finding, he was referred for fluoride prophylactic treatment. The dental technician prepared a mixture of 4% stannous fluoride solution and pumice. With the aid of a cotton swab she applied the mixture to the teeth. Shortly thereafter she removed the pumice that had adhered to the teeth with a cotton swab dipped in a 4% stannous fluoride solution. By self-demonstration using plain water, she showed the child how to rinse his mouth and spit out into the dental sink. Then she instructed him to rinse his mouth with a 4% stannous fluoride solution. Approximately five minutes later the child vomited followed by a convulsive seizure. A physical examination revealed the child was in shock. Emergency treatment was immediately applied and the patient was transferred by ambulance to a nearby medical center. He was admitted to the ICU of the pediatric ward. The history obtained at this time indicated that the child had swallowed a one-half Lily cup of 4% stannous fluoride solution. While in the ICU, the child had cardio-respiratory arrest during a convulsive seizure. He died approximately three hours after the topical application of 4% stannous fluoride

and the accidental ingestion of the 4% stannous fluoride solution."

None of the three components of the preventive regimen used in this case is recommended or advocated by any responsible authority or dental health agency. A concentrated fluoride solution should not be added *ad libitum* to pumice to produce a slurry intended for application to the teeth. Moreover, it is not suggested that a concentrated fluoride solution be used on a swab to remove adherent prophylactic paste from the teeth, nor should a concentrated fluoride solution be used for mouthrinsing. The unfortunate child actually received three separate dosages of fluoride, none of which is recommended. The preventive regimen that was employed is blatantly wrong for a three year old child; most children of this age cannot master a mouthrinsing technique or control, to a satisfactory degree, their swallowing reflex.(2)

A 4% stannous fluoride solution contains a fluoride concentration of almost 10,000 parts per million. Although there is no way of knowing the total amount of fluoride ingested by the child during the triple regimen, if he had swallowed half the contents of a small, 3-ounce Lily cup (about 45 ml.) he would have ingested 435 mg. of fluoride from the mouthrinse alone, a dosage that can obviously be lethal for a human of his age (and probable weight). In contrast, the amount of fluoride in 10 ml. of solutions recommended for weekly mouthrinsing in school for the prevention of dental caries is about 9 mg., and the dosage of fluoride for daily mouthrinsing is 2 mg.(3) These dosages are eminently safe even if swallowed accidentally.

It is tragically ironic for a parent to seek a dental examination for a child, for the child to be found to have no dental decay but be recommended for a preventive treatment, only to die because of that treatment. This lamentable sequence of events epitomizes a situation in which the worst possible outcome re-

ted from an effort to provide preventive health e.
This incident should remind us that, although fluoride in recommended dosages in various vehicles is a markedly effective agent for the prevention of dental caries, in excessive amounts it is a poison. This incident should reinforce our knowledge that because the quantity of a preventive agent is good, more is not necessarily better. Moreover, it should remind us that we are responsible for the activities of all personnel who work in our offices.

Each clinician who uses fluoride must be familiar with and use only recommended dosages and methods of delivery. Clinicians should not be their own chemists and devise their own preventive concoctions. Every office or clinic should have a current edition of **Accepted Dental Therapeutics**,⁽⁴⁾ the American Dental Association's compendium of appropriate drugs and procedures for the prevention and treatment of oral diseases and, more importantly, this book should be used before decisions are made concerning suitable regimens.

This case is not an indictment against stannous fluoride; the same result might have occurred with the use of sodium fluoride, acidulated phosphate fluoride, sodium monofluorophosphate or any other fluoride compound. Regardless of what agents are used in preventive dentistry, they must be handled with care and intelligence. Dr. Church states that "this is the first reported case of death from fluoride poisoning from dental treatment."⁽¹⁾ We should all work toward making it the last.

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1. Church, L.E., "Fluorides — Use with Caution," *J. Maryland Dent. Assoc.*, 19(1976):106.
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3. Horowitz, H.S., "The Prevention of Dental Caries by Mouth-rinsing with Solutions of Neutral Sodium Fluoride," *Internat. Dent. J.*, 23(1973):585.
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(Reprinted from *Journal of the American Society for Preventive Dentistry*, April 1977).

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THE CANADIAN DENTAL HYGIENIST / L'HYGIENISTE DENTAIRE DU CANADA

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ACHD

Recommandations aux auteurs

Textes:

Les textes doivent être remis dactylographiés à double interligne, sur papier 8½" sur 11"; toutes les marges doivent être d'au moins un pouce. Les auteurs doivent remettre un original et deux copies et le texte doit être soumis uniquement à L'Hygieniste Dentaire du Canada. Une page frontispice doit inclure le titre du texte, les noms, qualités et titres et postes du (des) auteur(s).

Illustrations:

Les illustrations doivent être claires afin que leur reproduction sur échelle réduite soit possible. Chaque illustration doit être accompagnée d'une légende dactylographiée. Les graphiques et schémas doivent être dessinés convenablement, à l'encre de Chine sur papier blanc. Les photographies doivent être des épreuves glacées; elles doivent être numérotées dans l'ordre.

Longueur du texte:

La longueur des textes devrait être de 8 à 10 pages dactylographiées ou de 3000 mots y compris les références. Les espaces pris par les illustrations doivent être inclus dans ces limites.

Sous-titres:

Les sous-titres sont recommandés afin de faciliter la lecture du texte.

Références:

Les références doivent être numérotées. Les références à des articles de revues doivent être faites de la façon suivante: nom du (des) auteur(s), initiale(s) du (des) prénom(s), titre de l'article (seule la première lettre du premier mot doit être en majuscule), nom au long du journal, numéro du volume, pages de l'article, année.

Exemple:

Zangwill, O.L. Le problème de l'apraxie idéatoire. *Revue Neurologique*, 102: 595-603, 1960.

Les références à des livres doivent être faites de la façon suivante: nom du (des) auteur(s), initiale(s), titre du livre (dans les titres en langue anglaise, tous les mots sauf les mots d'accompagnement doivent commencer par une majuscule), éditeur, ville où est située la maison d'édition, année de publication, pages (s'il y a lieu).

Exemple:

Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

Avis d'acceptation:

Les manuscrits seront reconnus sur réception. Les auteurs seront avisés de l'acceptation du manuscrit avant la publication. Les manuscrits refusés seront retournés.

CDHA Guide to Submission of Manuscripts

Manuscript:

All manuscripts submitted for publication should be typed double-spaced on standard (8½ x 11) paper with a margin allowance of at least one inch all around. The original and 2 copies must be submitted, and the manuscript must not be submitted elsewhere. A title page should be included with the full title of the paper, author's full name and degree, and author's official position.

Illustrations:

These must be clearly defined, and suitable for reproduction on a reduced scale. Each illustration should be provided with a type written legend and marked in numerical order. Graphs and drawings should be accurately drawn, in Indian ink on white paper. Photographs must be glossy prints, and also be marked in numerical order.

Length:

The preferred maximum length is 8-10 typed written pages or 3000 words including references. Space taken up for illustrations should be considered in the length.

Subheadings:

It is suggested these be used within the paper for ease of reference to the reader.

References:

References should be lined up numerically. References to journal articles should be made as follows: last name of author, followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, page or pages of article to which you refer, year.

Example:

Bell, G. Role of the dental hygienist in restorative dentistry. *Dental Health* 40: 139-141, 1973.

References to books should be made as follows: last name of author followed by initials, title of book with initial letters of all except connecting words capitalized, publisher, city of publication, year of publication, page or pages to which you refer.

Example:

Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

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Letters of application and curriculum
vitae or nominations should be
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Dr. S. Borden, Acting Dean
University of Manitoba Faculty of Dentistry
780 Bannatyne Avenue
Winnipeg, Manitoba
R3E 0W3

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The Department of Northern Saskatchewan, Health Services Branch, La Ronge, requires a Dental Hygienist. The incumbent will be assigned to the department's Children's Dental Plan and co-ordinate a dental health education program relevant to northern children. Duties will include gathering of resource materials, implementing a preventive program in co-operation with the Health Educator, public health nurses, community health workers, and other dental personnel, and acting as a resource person and teacher. There will be some travel by bush plane to other dental clinics in Northern Saskatchewan.

Applicants should have a Licence to practice as a Dental Hygienist in the Province of Saskatchewan, a certificate or diploma from an approved School for Dental Hygienists, and preferably some experience in teaching or planning educational programs in the field of Dental Health.

SALARY: \$11,148 - \$13,668

COMPETITION NUMBER: 602020-7-782

CLOSING DATE: A.S.A.P.

Forward your application forms and/or resumes to the Public Service Commission, 1820 Albert Street, Regina, Saskatchewan, S4P 2S8, quoting position, department, and competition number.

CDHA EXECUTIVE SECRETARY

Applications are invited for the position of Executive Secretary of the Canadian Dental Hygienists' Association. This is a part-time position and general responsibilities will be to:

- Perform routine secretarial and administrative duties
- Co-ordinate the activities of the elective and appointive officers of the Association

Applicants should have a broad understanding of the organization and administration of professional associations. Salary to be negotiated.

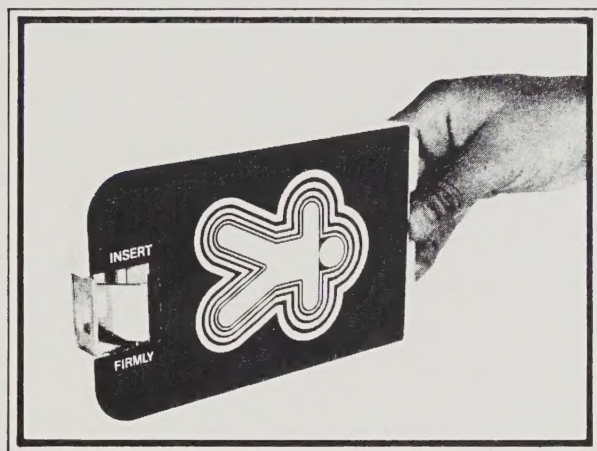
Inquiries and/or applications should be directed to:

Jane Costigane, CDHA President
127 Dunbar Road South
Waterloo, Ontario N2L 2E8

Answers to Self-Assessment Test

- | | | | | |
|------|------|------|------|-------|
| 1. c | 2. b | 3. d | 4. d | 5. c |
| 6. d | 7. c | 8. e | 9. b | 10. c |

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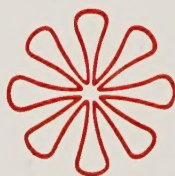
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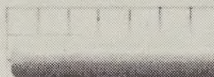
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Normal home usage—children—J.A.D.A. 51:556, 1955



Normal home usage—children—J.A.D.A. 64:216, 1962



Normal home usage—children—J.A.D.A. 72:408, 1966



Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970



Normal home usage—children—J. Dent. Child. 37:501, 1970



Normal home usage—children—J. Canad. Dent. Assn. 38:35, 1972



Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972



Fluoridated water—children—J. Dent. Child. 38:211, 1971



Supervised brushing—children—J.A.D.A. 58:42, 1959



Supervised brushing—children—J.A.D.A. 64:217, 1962



Supervised brushing—children—J.A.D.A. 65:482, 1962



SnF₂ topical—children—J. Dent. Child. 28:5, 1961



SnF₂ topical and prophylaxis—children—J.A.D.A. 70:914, 1965



SnF₂ topical and prophylaxis—children—J.A.D.A. 72:392, 1966



SnF₂ topical and prophylaxis—adults—J.A.D.A. 75:1402, 1967



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

SPRING 1978 PRINTEMPS

VOLUME 12, NO. 1

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$10 per year in Canada and \$12 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du rédacteur.

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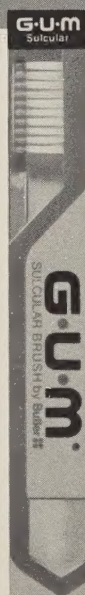
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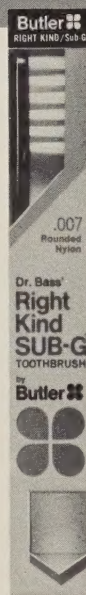
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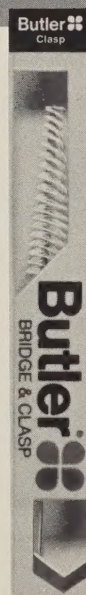
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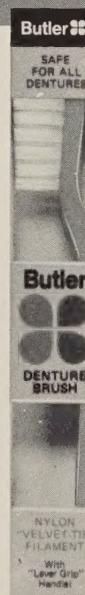
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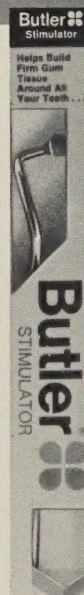
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APRIL IS DENTAL HEALTH MONTH

April is Dental Health Month, an opportunity for members of the dental team to "go public". A wide array of projects is planned to help the people of Canada learn more about good oral health.

The theme for this year is "KEEP YOUR TEETH FOR A LIFETIME" and with it, we are establishing a goal for Canadians as well as showing our willingness to help them achieve it. Thousands of leaflets will be distributed through food stores, province-wide poster contests are underway, radio and television presentations are being arranged and a wide variety of local displays and projects will be carried out. We would sure like to have you join us in some of these or, if you like, to put some of your own ideas into effect.

Contact the provincial campaign manager in your own province as listed below for dates, planning aids and projects with which you can help.

British Columbia: Dr. J. Anderson, 14819 108 Avenue, Surrey, B.C. V3R 1W2

Alberta: Dr. J. Boulton, 7 Parkdale Crescent, Calgary, Alberta

Saskatchewan: Dr. E. Freidin, 507 - 105 21 Street East, Saskatoon, Saskatchewan S7K 0B3

Manitoba: Dr. W. Wilfred, 1839 Main Street, Winnipeg, Manitoba

Ontario: Dr. Babcock, 234 St. George Street, Toronto, Ontario M5R 2P2

Quebec: Dr. Y. Dufresne, 143 Radisson Street, Trois Rivières, Quebec G9A 2C5

Nova Scotia: Dr. A.E. MacLeod, 5857 MacLeod Drive, Halifax, Nova Scotia B3H 1C6

Prince Edward Island: Dr. G. Glantz, Box 307, Souris, P.E.I.

New Brunswick: Dr. G. Jalbert, Central Medical, 55 Emerson, Edmundston, New Brunswick

Newfoundland: Dr. R.W.G. Gamble, 189 Le Marchant Road, St. John's, Newfoundland A1C 2H5

ADHA ANNUAL CONVENTION 1978

The Alberta Dental Hygienists' Association Annual Convention will be held May 28 to 31 at the Edmonton Plaza Hotel in Edmonton, Alberta. The keynote speaker will be Dr. Ken Olson, author of the bestseller *How to Hang Loose in an Uptight World*. For further information, please contact Marg Suss, 306, 9925 91 Avenue, Edmonton, Alberta T6E 2T7.

FDI 2-DIGIT SYSTEM — NEW STANDARD

The International Organization for Standardization (ISO) has adopted the FDI two-digit system of tooth designation as a new International Standard. In the introduction to the Standard, it states:

"Over the years since dentistry first required a method of tooth designation, various systems have been used. These have included multiple digit systems giving quadrants and an indication of the teeth, of the type set out in this International Standard, and those using an angular/grid representation for the quadrant with a 1 to 8 single-digit system for the teeth.

The wider use of computers for information storage and the increasing need for simple communication on dental matters by word of mouth, in print and by wire, has resulted in fresh thought being given to the basic requirements of a tooth designation system. The two-digit system detailed in this International Standard has been compiled and endorsed by the Fédération Dentaire Internationale (FDI) to satisfy the following requirements:

- a) simple to understand and teach;
- b) easy to pronounce in conversation and dictation;
- c) readily communicable in print and by wire;
- d) easy to translate into computer 'input';
- e) easily adaptable to standard charts used in general practice".

It has been approved by the member bodies of the following countries: Australia, Brazil, Canada, Egypt, Arab Rep. of, France, Germany, India, Iran, Italy, Mexico, Netherlands, New Zealand, Norway, Romania, South Africa, Rep. of, Sweden, Switzerland, Thailand, Turkey, U.S.A., U.S.S.R.

For permanent teeth the designation is as follows: (Upper Right)

18	17	16	15	14	13	12	11
48	47	46	45	44	43	42	41

(Lower Right)

(Upper Left)

21	22	23	24	25	26	27	28
31	32	33	34	35	36	37	38

(Lower Left)

For deciduous teeth the nomenclature follows on logically:

(Upper Right)

55	54	53	52	51
85	84	83	82	81

(Lower Right)

(Upper Left)

61	62	63	64	65
71	72	73	74	75

(Lower Left)

HEALTH MANPOWER REPORT ON DENTAL HYGIENISTS RELEASED

The *Health Manpower* report on dental hygienists has recently been released by Statistics Canada. For this survey, data were collected by questionnaires mailed to all provincially licensed dental hygienists and to the members of the Canadian Dental Hygienists' Association.

The objectives of this survey are to provide statistical data on the socioeconomic and demographic characteristics of dental hygienists qualified to practise and resident in Canada, and to disseminate information to manpower planning groups and other users as a source of data for analysis and special studies. This publication presents basic distributions and cross-classifications of these characteristics.

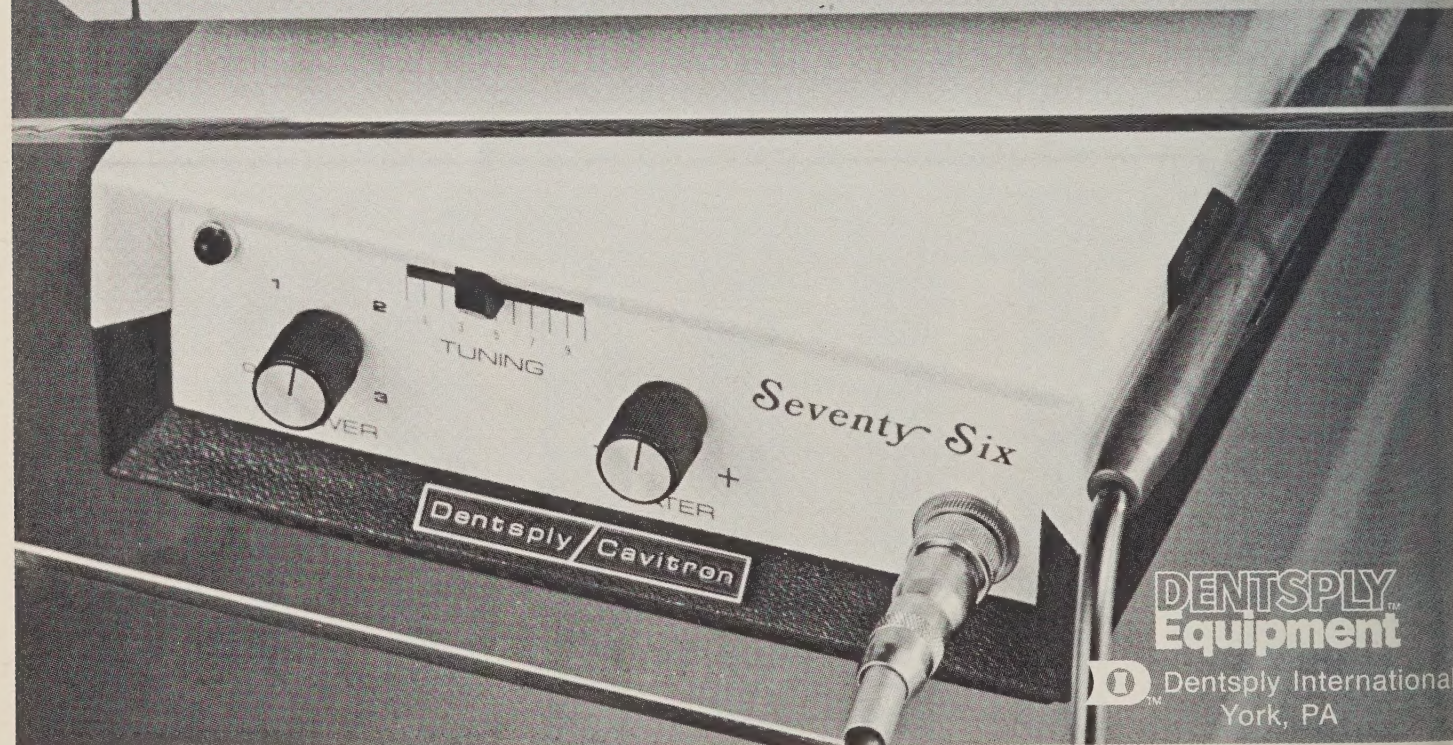
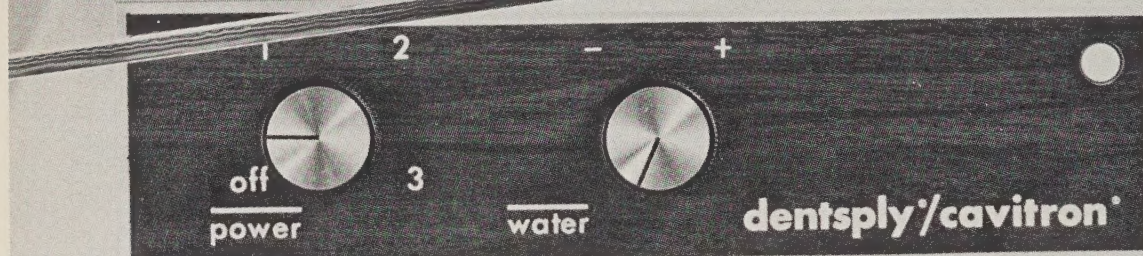
Statistics Canada is indebted to the Canadian Dental Hygienists' Association and to the Health Manpower Research Unit at the Health Sciences Center of the University of British Columbia for their assistance and support in this survey.

This and other government publications may be purchased from local authorized agents and other community bookstores or by mail order. Mail orders should be sent to Publishing Centre, Supply and Services Canada, Ottawa K1A 0S9, or in the case of Statistics Canada publications only, to Publications Distribution, Statistics Canada, Ottawa K1A 0T6.

DENTAL HYGIENIST APPOINTED TO COMMITTEE

Pat Johnson of Aurora, Ontario has been selected as a member of a Working Group of Preventive Dental Services which has been established following discussions with the Federal/Provincial Advisory Committee on Health Standards and with several national dental organizations. Members were selected in consultation with Dr. D.W. Lewis, Chairman of the Group, from nominations received from national organizations including the Canadian Dental Hygienists' Association on the basis of their knowledge of preventive dentistry, dental epidemiology, dental hygiene and day-to-day dental practice.

7th International Symposium on Dental Hygiene
July 25 - 28, 1979
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ADHA, ADA CLASH OVER PRIMARY CARE' POLICY

The American Dental Association (ADA) House of Delegates reaffirmed the Association's position that the dental hygienist is an auxiliary to the dental profession, in answer to an American Dental Hygienists' Association (ADHA) resolution adopted by its house of delegates that the hygienist is a potential primary care provider."

The ADHA resolution's preamble stated:

"Resolved, that the American Dental Hygienists' Association supports the broadening of the scope of dental hygiene practice to meet the health care needs of the public in accordance with state dental and/or dental hygiene practice acts.

"Be it further resolved, that the ADHA endorses the implementation of the scope of dental hygiene practice (R-36-AM-76-H) through alternative methods of practice in a variety of settings, which would enable the dental hygienist to be a primary care provider of preventive services, thereby delivering increased health care to a greater percentage of the population."

In response to the ADHA resolution, the ADA Thirteenth Trustee District initiated a resolution, which subsequently was adopted by the ADA House, stating that a dental hygienist by education and training is an auxiliary of the dental profession" and that "the dental hygienist shall work only under the general direct control and supervision of a licensed dentist who is professionally and legally responsible for the total dental care of the patient."

In other actions related to dental auxiliaries, the House affirmed that qualification for licensure as a dental hygienist may include, as an alternative to graduation from an accredited dental hygiene program, completion of an equivalent component of a dental school curriculum.

Also, the House referred for study to the Commission on Accreditation of Dental and Dental Auxiliary Education-

Programs a proposal that varied levels of acceptable training be reflected in the "Guidelines for dental assistant training programs."

INCOME REPLACEMENT PLAN

As one of the benefits of membership, the C.D.H.A. sponsors a Dental Auxiliaries Group Income Replacement Plan. For complete information relating to this plan, please contact:

Canadian Dental Service Plans, Inc.
234 St. George Street
Toronto, Ontario M4R 2N5

CBC BUYS ANIMATED "TOOTHBRUSH FAMILY"

The Canadian Broadcasting Corporation has purchased 20 episodes of the Toothbrush Family, an animated television series based on stories by Marcia Hatfield, an award-winning Australian writer.

The episodes are already seen twice weekly in America on the Captain Kangaroo Show on CBS, and Ms. Hatfield is the first Australian to have a program syndicated by an American network.

The series depicts the nocturnal exploits of characters normally assumed to be inanimate bathroom objects — such as Nev Nailbrush, Tom and Tess Toothbrush, and Cecily Comb and Bertie Brush. It premiered on CBC on November 10 and will be telecast weekly throughout Canada. Each segment is four minutes long and will be seen at 4:24 p.m.

Ms. Hatfield recently attended the 65th Annual World Dental Congress in Toronto, where she discussed the impact the mass media approach of the Toothbrush Family could have on dental hygiene for children throughout the world.

In addition to the cartoon series, the Toothbrush Family characters will soon be seen in books, cassettes, records, jigsaw puzzles and a variety of other products designed to appeal to children.

NEW POSTER SERIES AVAILABLE FROM ADA

In an effort to help make plaque a household word, the Bureau of Dental Health Education of the American Dental Association has produced a series of four colorful posters with an evil "Captain Plaque®" character created by David L. Burke Design Corp.

"Zap Captain Plaque®" (\$40) is the first in the series, which emphasizes regular dental care with cartoon messages. "Wipe Out Captain Plaque®" (\$41) on flossing brushing, "Starve Captain Plaque!®" (\$42) on avoiding sweet snacks, and "Combat Captain Plaque!®" (\$43) on the importance of using fluorides, complete this series.

Like all the Bureau's items, these posters may be purchased at cost from the ADA Order Section, 211 E. Chicago Ave., Chicago 60611. Prices are \$1 each, (25) \$5.40, and (100) \$20.55. Remittance must accompany each order.

**PARTICIPATE IN '78
SEPTEMBER 10 - 13
in WINNIPEG, MANITOBA**



Clinical session during continuing education course in local anesthetic.

HYGIENISTS ADMINISTER LOCAL ANESTHETICS IN B.C.

The administration of local anesthetics by qualified dental hygienists is now legal in British Columbia. The teaching of this function has been incorporated into the curriculum of the UBC Program of Dental Hygiene. In addition, continuing education courses for graduate hygienists are now being offered through the Division of Continuing Education in the Health Sciences at UBC. Local anesthetic programs offered in other jurisdictions are currently being evaluated in order to determine equivalency.

CDHA BY-LAW AMENDMENTS

At the 1977 Annual Meeting of the CDHA Board of Directors, Chapter I, Section 5B and Chapter VII, Section 2D of the CDHA By-laws were deleted. Please make these changes in your personal copy of the Constitution and By-laws. If you do not have one, please write to Diane Girardin, CDHA Constitution Chairman, Box 22, LaSalle, Manitoba R0G 1B0.

NUTRITION SLIDE SERIES

The Nutrition Department of General Mills, Inc., has developed the first in a series of slides designed specifically for health professionals and nutritionists. The series is uniquely flexible in two ways: (1) There is no written script, which provides individuality to slide presentations and (2) there is no limit on quantity and no need to purchase a "complete set".

The first completed series, which consists of over 200 35 mm color slides on weight control, will be available in February, 1978. A slide catalogue with black and white representations and with short descriptions of all slides can be obtained by mailing \$1.00 to Beverly H. Tanis, Nutrition Department, General Mills, Inc., P.O. Box 1113, Minneapolis, Mn 55440.

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Cooper

Cooper Laboratories Limited, Boisbriand, Quebec

SELF-ASSESSMENT TEST X

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

As a result of interest in the self-assessment tests published in the 1977 issues of *The Canadian Dental Hygienist*, this feature is being continued. The 1978 series will focus on four specific areas relating to clinical dental hygiene practice, the first of which is radiography.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 24 for the correct answers.

1. A term used in a broad sense to include all radiation emitted in directions other than the useful beam is

- a. Leakage radiation
- b. Secondary radiation
- c. Scattered radiation
- d. Stray radiation

2. Film monitoring is an effective means of

- a. Reducing radiation to the operator
- b. Testing effectiveness of safety precautions
- c. Determining maximum permissible dosage
- d. Protecting patient from scatter radiation

3. According to most authorities, the diameter of the primary beam as it enters the patient should not be greater than

- a. 3.00 inches
- b. 2.75 inches
- c. 2.50 inches
- d. 1.50 inches

4. Protective aprons must provide the equivalent attenuation of

- a. .05 mm lead
- ☒ b. 1.5 mm. lead
- c. .25 mm. lead
- d. .5 mm. lead

5. For periapical exposures that amount of film showing above or below the occlusal plane when the film is in proper position should be

- a. No greater than 3/8 of an inch
- b. Between 1/8 and 1/4 of an inch

- c. No greater than 1/8 of an inch
- d. No greater than 1/2 inch

6. The periodontal ligament space surrounding a normal tooth would appear radiographically as

- a. An unbroken radiographic line around the tooth root
- b. An unbroken radiolucent line around the tooth root
- c. A radiopaque line on the lateral sides of the tooth
- d. A radiolucent line around the apical part only of the root

X 7. In a radiographic examination, the incisive foramen may be superimposed over the apex of a root. Care must be taken not to assume it is a

- a. Granuloma
- b. Chronic abscess
- c. Radicular cyst
- d. Any of the above

☒ 8. In interpreting a radiograph in which a deposit of calculus is plainly visible on the interproximal surface of a tooth, one may assume that the depth of the pocket at that point will be at what level?

- a. Exactly at the level of the apical end of the deposit
- b. A millimeter or so below the apical end of the deposit
- c. Four or five millimeters below the apical end of the deposit.
- d. Pocket depth cannot be determined accurately by a radiograph

☒ 9. Occlusal films may be required to complete a radiographic examination to show the

- a. Mesiodistal relationship of teeth
- b. Buccolingual relationship of the teeth
- c. Anteroposterior relationship of teeth
- d. Occlusal apical relationship of teeth

X 10. The area covered by both the Panorex and the Orthopantomograph is much greater than that of conventional intra-oral films and includes

- a. Both jaws
- b. Both jaws and the maxillary sinus
- c. The lower jaw only
- d. Both jaws, the maxillary sinus and the temporomandibular joint

Suggested Reference:

Wuehrmann, Arthur H. and Manson-Hing, Lincoln R. *Dental Radiology*. St. Louis, Mosby, 1977. This text is available from the C.V. Mosby Company, 86 Northline Road, Toronto, Ontario M4B 3E5.

Marjorie Dimitri, R.D.H.
Joan Voris, R.D.H., B.S.

REGISTRATION, LICENSURE AND PRACTICE OF DENTAL HYGIENISTS IN CANADA

BRITISH COLUMBIA

Graduates of Canadian Dental Association approved programs are eligible for registration without further examination who apply for registration within five years of graduation. Graduates of other programs are eligible for registration upon successful completion of a written and clinical examination. Registration fee: \$50.00. Annual license fee: \$65.00.

Dental hygienists may perform all procedures delegated to the dental assistant and certified dental assistant plus the following: examine head and neck; examine intraoral structures; examine occlusal relationships; identify habits affecting occlusion; identify deviant swallowing patterns; take pulp vitality tests; place and remove temporary restorations; apply and remove periodontal dressings; remove supra and subgingival calculus; curette and root plane tooth surfaces; recontour existing restorations; desensitize hypersensitive teeth; administer local anesthetics (after approved training).

ALBERTA

Completed application with proof of graduation from a course of study equivalent to that at the University of Alberta. Evaluation of documents by University Co-ordinating Council for fee of \$10.00. No registration or license fee.

A registered dental hygienist may perform those duties taught at the school of dental hygiene in the Faculty of Dentistry at the University of Alberta and for which proper training has been successfully completed.

SASKATCHEWAN

Registration without further examination for graduates of dental hygiene schools recognized and approved by the Canadian Dental Association; others must pass examinations prescribed by the University of Saskatchewan. Registration fee: \$25.00. Annual license fee: \$55.00.

A dental hygienist may perform any duties delegated by a dentist who must be responsible for the standards and quality of dental treatment rendered. These duties shall not include oral diagnosis and treatment planning, prescribing of drugs, fabrication of prosthetic or orthodontic appliances requiring the skill and knowledge of a qualified dentist; no cutting of hard or soft tissue except as provided by a recent by-law change authorizing dental hygienists to inject local anesthetics, perform curettage, and perform minor periodontal surgery.

MANITOBA

Completed application with proof of graduation from an accredited Canadian school of dental hygiene or American Dental Association National Board Dental Hygiene Certificate. Registration fee: \$25.00. Annual license fee: \$10.00.

Dental hygienists may perform any clinical duty for which they have been formally trained in a course of study approved by the Manitoba Dental Association. Duties beyond dental health education making radiographs, prophylaxis including scaling and the topical application of fluoride include (but are not limited to) the following: taking medical and dental histories; tests for caries activity and gingival inflammation; impressions for study models; preliminary and final impressions from which dentures can be fabricated; application of sealants; diet survey, analysis and counselling; placement of periodontal dressings; suture removal; desensitizing procedures; fabrication of mouth guards; removal of excess cement from the teeth; application of topical anesthetics; administration of emergency care; placement and removal of rubber dams; placement and removal of matrix bands; placement of temporary restoration placement, carving and finishing of plastic restorations; overhang removal.

ONTARIO

Completed application with proof of graduation from an accredited Ontario school of dental hygiene (no examination required), graduation from a non-accredited Ontario school of dental hygiene (examination required) or graduation from an accredited dental hygiene program outside Ontario (examination required). Examination fee: \$75.00. Registration fee: \$25.00. Annual license fee: \$50.00.

The following duties may be performed by dental hygienists following training at a recognized institution: preliminary examination of patients and provision to the dentist of dental health data; scaling and polishing of teeth; topical application of anticariogenic agents; patient and community education in oral health; exposure, processing and mounting of radiographs and photographs; performing extraoral duties designated by the dentist; polishing amalgam fillings; applying displacement dressings; application of fissure sealants; taking impressions of teeth for study models; placement and removal of rubber dams; removal of sutures; placement, finishing and polishing of amalgam, silicate and resin restorations; placement and removal of matrix bands; placement of cavity liners in tooth where the pulp has not been exposed; gingival retraction for impression taking; fitting and removal of orthodontic bands; separating of teeth prior to banding by dentist; cementation of temporary crowns previously fitted by a dentist; placing of temporary fillings.

Completed application with proof of graduation from a Canadian English program (no licensing examination required but French proficiency test is). Non-Canadian citizens must receive landed immigrant status, take and pass a written and practical licensing examination, and pass a French proficiency test. Registration fee: \$25.00. Annual license fee: \$75.00.

tal health education; exposing and processing of radiographs; ing; root planing; polishing; topical application of anticariogenic nts; examining and recording conditions of the oral cavity; im- sions; completion of plastic and amalgam restorative proced- after cavity has been prepared by dentist; placement and oval of rubber dams; removal of sutures; placement of perio- tal dressings.

NOVA SCOTIA

Completed application with proof of graduation from a two-year course of study for dental hygiene approved by the Board. Registration fee: \$25.00. Annual License fee: \$10.00.

Registered dental hygienists may perform any duties for which they e been trained except diagnosis and treatment planning; pre- scribing or advising the use of any prosthesis; providing facilities fabrication, fitting, repair, etc. of such prostheses; severing or ing hard or soft tissues; prescribing or administering drugs.

NEW BRUNSWICK

Completed application with proof of graduation from a recognized dental hygiene school. Registration fee deter- mined by Council. Annual license fee: \$10.00.

a dental hygienist shall perform those duties for which she has n formally trained and under the direct control and supervision he dentist. The Director of Dental Services for the province of v Brunswick shall be responsible for treatment services provided the dental hygienist employed by the province of New Bruns- wick. Each person must be registered by the New Brunswick Dental iety.

NEWFOUNDLAND

Completed application with proof of graduation from a prescribed course of study for dental hygiene recognized by the Board. The Board may prescribe examinations for registration if for any reason it may decide to do so. Regi- stration fee: \$10.00. Annual license fee: \$10.00.

removal of stains and calcareous deposits from the surface of the th including the gingival crevices; teaching of oral hygiene; ministration of first aid; taking x-rays; providing the usual services a dental nurse; topical application to the teeth of caries-prevent- medicaments; completion of the post tooth-cutting portion of stic restorative procedures by hygienists with advanced training his field; any measure of a specific nature determined by the ociation.

*Compiled by Marjorie Dimitri,
Carol Kline and Joan Voris*

PRINCE EDWARD ISLAND

Completed application with proof of graduation from a two-year course of study approved by the Council. Regi- stration fee: \$10.00. Annual license fee: \$5.00.

All functions of the practice of dentistry for which the dental hygien- ist has been trained except diagnosis and treatment planning; pre- scribing or advising the use of any prosthesis; providing facilities for fabrication, fitting, repair, etc. of such prostheses; severing or cut- ting hard or soft tissues; prescribing or administering drugs.

LICENSING BODIES

- COLLEGE OF DENTAL SURGEONS OF BRITISH COLUMBIA: 1125 West 8th Avenue, Vancouver, B.C., Canada V6H 3N4
- ALBERTA DENTAL ASSOCIATION: #101 - 8230 - 105 Street, Edmonton, Alberta, Canada T6E 5H9
- COLLEGE OF DENTAL SURGEONS OF SASKATCHEWAN: #811, 105 -21 Street East, Saskatoon, Sask- atchewan, Canada S7K 0B3
- MANITOBA DENTAL ASSOCIATION: 308 Kennedy Street, Winnipeg, Manitoba, Canada R3B 2M6
- ROYAL COLLEGE OF DENTAL SURGEONS OF ON- TARIO: 230 St. George Street, Toronto, Ontario, Canada M5R 2N5
- PROFESSIONAL CORPORATION OF DENTAL HY- GIENE OF QUEBEC: #237 - 5757 Decelles Street, Montreal, Quebec, Canada H3S 2C3
- NEW BRUNSWICK DENTAL SOCIETY: 65 Pacific Avenue, Moncton, New Brunswick, Canada E1E 2G2
- PROVINCIAL DENTAL BOARD OF NOVA SCOTIA: P.O. Box 604, Halifax, Nova Scotia, Canada B3J 2R7
- DENTAL ASSOCIATION OF PRINCE EDWARD IS- LAND: R.R. #5, Montague, P.E.I., Canada C0A 1R0
- NEWFOUNDLAND DENTAL BOARD: 103 Le Mar- chant Road, St. John's, Newfoundland, Canada A1C 2H5

DENTAL HYGIENE PLACEMENT SERVICES

Provincial employment opportunities are co-ordinated through the following placement services:

- BRITISH COLUMBIA: Mrs. Carol Kline, 1136 West 40th Avenue, Vancouver, B.C. V6M 1V2, (604) 261- 6868
- ALBERTA (NORTHERN): Mrs. Darlene Thomas, 5 Mission Street, Sherwood Park, Alberta T8A 0V5, (403) 467-4438
- ALBERTA (SOUTHERN): Mrs. Sherry Tully, 2539 - 19 Street S.W., Calgary, Alberta T2T 4X4, (403) 245- 1136
- SASKATCHEWAN: John Dion, 876 Monk Avenue, Moose Jaw, Saskatchewan S6H 4E2
- MANITOBA: Ginny Jamieson, 470 Busford, Winni- peg, Manitoba R3L 1J5
- ONTARIO: Mrs. Pat Johnson, R.R. #2, Yonge Street, Aurora, Ontario L4G 3G8, (416) 727-1433
- NOVA SCOTIA: Dr. S.G. Bagnall, Nova Scotia Dental Association, P.O. Box 604, Halifax, Nova Scotia B3J 2R7

DENTAL HYGIENE: THE MATURATION PROCESS OF A PROFESSION

Are dental hygienists professionals and is dental hygiene a profession? Purist sociologists might say no but increasingly, dental hygienists and legislative bodies in North America are saying yes. Dental hygiene is, at least by most definitions, an emerging profession.⁽¹⁾ The Concise Oxford Dictionary defines a profession as a vocation, calling, especially one that involves some branch of learning or science.

A profession is seen as an intellectual occupation, based upon a long process of formal assimilation of theoretical knowledge upon which professional activity is based. The intellectual technique acquired by special training is applied to some sphere of everyday life. To the professional person, his work becomes his life; the welfare of the client takes precedence over self-interest and monetary compensations.⁽²⁾

In 1977, a court in the U.S.A. ruled that dental hygienists practise a profession and that the professional status of hygienists could be recognized in one of two ways. The first way would be to create an independent board regulating dental hygiene which would consist of a majority of dental hygienists. The other possibility was that dental hygiene and dentistry could be considered parts of the same profession, which would require representation of dental hygienists on the (state) licensing board of professionals.

This whole question arose because the Michigan Dental Hygienists' Association contended that dental hygienists practise a profession and that excluding them from representation on the state board which licenses them was a violation of the Michigan Constitution, Article V, Section 5, which provides that: "A majority of the members of an appointed examining or licensing board of a profession shall be members of that profession."^(3,4,5) The only province in Canada which could meet this U.S. standard is Quebec where La Corporation professionnelle des hygiénistes dentaires du Québec is the self-regulatory, licensing body for dental hygienists of the province. A number of other provinces have dental hygienists representing the provincial dental hygiene associations on their provincial dental association/licensing boards. The Ontario Dental Hygienists' Association is

lobbying to have self-licensure for dental hygienists in Ontario. This would enable them to have peer review in such areas as professional discipline.

One indicator of the maturity of a profession is the educational preparation and involvement of its members in the educational process. At this point, it is worthwhile to look at the evolution of nursing education in Canada. Prior to World War II, many of the directors of Canadian schools of nursing were physicians. After the war, nurses with improving educational qualifications assumed in increasing numbers the directorships and other teaching posts in schools of nursing. There was an increasing awareness on the part of nurses that they, with the aid of further studies, were best qualified to administer schools of nursing and to teach the majority of subjects to nurses. Physicians, as with other experts, were invited to lecture to the students in selected areas.

Dental hygienists in Canada are becoming better prepared educationally to assume administrative and teaching roles. Prior to 1971, it was necessary for dental hygienists who wished to pursue further studies beyond the basic dental hygiene diploma to enter another program such as a general B.A. or B.Sc. which might have very little or no content directly related to dental hygiene administration or education, or to attend an American university. Also, dental hygienists having only a diploma were, and it is understood still are, ineligible for the Canadian diploma in dental public health programs designed to prepare dentists for careers in dental public health.

In 1971, with the commencement of the baccalaureate program at the University of Montreal, French-speaking students were able to take both a basic dental hygiene program and a second major in teaching or pedagogy. A major difficulty with this program, as with a number of U.S. programs, was that the students did not have the opportunity to work for a year or so upon completion of the basic dental hygiene program before entering the teaching phase of their studies. However, this three year program with the objective of graduating approximately five years of classes was meant to be only an initial temporary

measure to create a cadre of dental hygiene educators for the CEGEP (community college) diploma dental hygiene programs in Quebec. The program, to which no further entering students were accepted after 1976, is under revision to enable it to offer a baccalaureate program of great diversity to graduates of the CEGEP diploma programs.

English-speaking students had to wait until September 1976 when the first dental hygienists were admitted into the new B.Sc.D. program for dental hygienists at the University of Toronto. Nevertheless, with these two French and English programs and others which are planned, hygienists should be able to assume more frequently senior posts in teaching, administration, public health and research within Canada. It is all the more disconcerting when one reads an advertisement on page 376 of the August 1977 issue of the *Journal of the Canadian Dental Association* inviting applicants for the position of Chairman, Dental Health Sciences, St. Clair College, Windsor, Ontario. Only a dentist, not a hygienist, was eligible to apply for this position of responsibility for the dental hygiene and dental assisting programs. Why wasn't a hygienist eligible? Another interesting omission in the advertisement was that there was no reference to a knowledge of dental hygiene and dental assisting nor to experience as an educator. The only stated qualification was to be registered or eligible for registration in the Province of Ontario as a dentist! Surely dental hygiene and dental assisting education deserve more than that. Surely dental hygienists with advanced education could assume successfully such a post. Perhaps this is only an isolated case. However, I trust that provincial dental hygiene associations will be on guard to challenge such discriminatory practices. Ironically, at the bottom of the above mentioned advertisement there was the statement, "An equal opportunity employer". Are there equal opportunities for dentists but not for dental hygienists to direct their own educational programs? How often does one hear of a physician being director of a nursing education program in Canada these days? Next to never, if ever!

With the growth of dental hygiene in Canada, professionally, numerically and educationally over the past ten years, it seems that equal opportunity to become chairman or chairperson of dental health sciences at a community college is due. Also, as with nursing, dental hygienists should be the majority on dental hygiene advisory committees for dental hygiene educational programs and they should be the chairmen of such committees as well.

Perhaps another indication of professional maturity is the awareness that there is a need for a history of the profession. A number of American dental hygiene textbooks relate the birth and growth of dental hygiene in the United States. However, we are yet to have a complete and concise history of dental hygiene in Canada. Dental hygiene schools have prepared some histories of the profession. Provincial

dental hygiene associations and educators are urged to compile and publish a history of dental hygiene in their area. Dental hygiene students are asking in increasing numbers for published accounts of the development of dental hygiene in Canada. Anyone wishing to write or publish an historical account of some aspect of dental hygiene education, licensure, practice and manpower should contact this author. An effort will be made to identify available accounts and to fill in the gaps. The history of dental hygiene in Canada, particularly in the past ten years, has been sufficiently different from that of the U.S.A. that a record should be made before memories fade and facts disappear.

The last and perhaps most thorny issue in professionalization is the question of independent practice. Traditionally, dental hygienists have been employees working under the supervision, direct or indirect, of licensed dentists. Supervision has been defined differently by different jurisdictions from telephone or radio contact with the supervising dentist to being in the same office at the same time as the supervising dentist while practising. A California dentist and dental hygienist have created a stir in the U.S.A. over their controversial practice arrangements.^(6,7) The issue was over the dental hygienist's legal ability to be the proprietor of her own practice. The practice relationships between dentists and dental hygienists are bound to change as dental hygiene as a profession evolves. The California case is only an early example of the practice experimentation to come both within Canada and the United States.

There is nothing more evitable than change. Even the October 1977 American Dental Hygienists' Association policy endorsing the dental hygienist as a potential "primary care provider" is a harbinger of change, of maturation.⁽⁸⁾ So be it.

References

1. Grassroots. *Dental Hygiene*. Vol. 51: September 1977, pp. 396, 415, 419.
2. Nosow, Sigmund and Form, William H. *Man, Work and Society — A Reader in the Sociology of Occupations*. Basic Books, Inc., New York, 1962, pp. 197 - 235.
3. Grassroots, op. cit.
4. Editorial, Michigan: On the Move. *Dental Hygiene*. Vol. 51: October 1977, pp. 439, 468.
5. Dental Hygienists Serving State Boards of Dentistry. *Dental Hygiene*. Vol. 51: October 1977, pp. 474 - 475.
6. California hygienist creates controversy by running her own contractual practice. *American Dental Association News*. November 14, 1977. p. 1.
7. California hygienist altering practice to comply with law. *American Dental Association News*. November 28, 1977. p. 1.
8. ADHA, ADA Clash Over "Primary Care" Policy. *American Dental Association Leadership Bulletin*. Vol. VII, No. 21: October 24, 1977. p. 4.

Sharon B. French, R.D.H., M.S.

What are your views on these subjects? Letters of comment to this column are invited and should be sent care of: CDHA Editor, 10560 Milford Drive, Richmond, B.C., Canada V7A 4J7.

"PARTICIPATE IN '78"



Diane Girardin

Welcome to friendly Manitoba, site of the 15th Annual C.D.H.A. Convention.

Come see how attractive our land is, from the countless clear lakes and vast green forests to the rich rolling farmlands. We'll be happy to share with you the beauty of a land where Canada's east and west meet.

Come visit its people because Manitobans are different. They are a people of numerous ethnic backgrounds and have earned a reputation of being friendly and co-operative.

An interesting program has been planned through the joint effort of all dental personnel. One day has been set aside for each group, but the remaining convention is to be attended by all those involved.

Make a holiday of it and let us welcome you to Manitoba in the fall.

Bienvenu à tous! J'aimerais vous inviter chez-nous en automne pour la 15e convention annuelle de l'A.C.D.H. Au Manitoba, la beauté du paysage et l'amitié des gens font d'un séjour une expérience inoubliable. Nous serons heureux de vous accueillir dans notre province, une contrée habitée d'un monde multi-éthnique.

La convention elle-même est unique. Le programme fut conçu dans l'espoir qu'il sera attrayant pour tout le personnel dentaire.

Enregistrez-vous aujourd'hui! Venez visiter le Manitoba et découvrez par vous-mêmes tous ses charmes.

Diane Girardin
Convention Chairman 1978

"CALL FOR TABLE CLINICS"

Hygienists are encouraged to "Participate in '78" by contributing, through table clinics, to the continuing education of our profession.

Our theme, "Patient Education", should result in many new and exciting ideas. If you would like to share with us a worthwhile concept or technique, please complete the registration form and send to our Table Clinic Chairman:

Mrs. Dorothy LeClair
23 Nicollet Avenue
Winnipeg, Manitoba
R2M 4L7

TABLE CLINIC REGISTRATION

Name of participant(s): _____

Address: _____

Clinic Title: _____

Equipment Needs: Projectors, screens, easels, etc. (Please list)

Deadline for submission — June 1st, 1978

CONVENTION PROGRAM

Friday, September 8

Leadership Workshop — Board Members

Saturday, September 9

Afternoon: Annual Session of Board of Directors
General membership welcome to observe

Sunday, September 10

All Day: Annual Session (continued)
Afternoon: Dental Hygienists' Registration at Hospitality Suite, Charterhouse Hotel
*Evening: Opening Ceremonies, Entertainment (at Convention Centre)
Opening and viewing of Exhibits

Monday, September 11

*Morning: Auxiliary Utilization in the Manitoba Children's Dental Plan
— Education of Manitoba Dental Nurses
— Program and activities of auxiliaries
— Reactions of three Manitoba Dental Nurses, originally Dental Hygienists
*Luncheon: Honouring retiring President, Jane Costigane
*Afternoon: Visual and Educational Aids, Ms. B. Gitzel, R.D.H.,
Edmonton, Alberta
Table Clinics — Theme: Patient Education
*Evening: Mini "Folklorama"
— Registered Dental Hygienists and invited guests

Tuesday, September 12

*All Day: Klein and O'Connor, Tacoma, Washington
"Organization and Management of Modern Dental Practice" —
practice management and personnel relations specialists for the entire
dental team
*Luncheon: All Groups
*Evening: Super Surprise Night

Wednesday, September 13

*All Day: Dr. Klein and Dr. O'Connor
*Luncheon: All Groups **INCLUDED IN REGISTRATION FEE OF \$70.00*

DENTAL MANAGEMENT OF THE PHYSICALLY AND MENTALLY HANDICAPPED

WENDY BOYCE, R.D.H.

Ms. Boyce, presently an expanded duties hygiene student at The George Brown College of Applied Arts and Technology, wrote this article while employed at The Hospital for Sick Children in Toronto, Ontario.

Regular dental care for the physically and mentally disabled is vital for their general health to help overcome their difficulty in performing adequate home treatment. By preventing tooth loss, mastication is facilitated and nutritional needs can be better maintained. Poor oral condition can further burden a handicapped patient who may already have a lowered potential for normal living. The hygienist plays an important role, maintaining the dentist's restorative work with a practical preventive program.

Dental Management

Treatment of the disabled often requires flexibility and ingenuity. Return visits for hygiene treatment every 2 to 3 months may be necessary. Direct treatment requires agility during instrumentation to prevent trauma due to oral deformity, uncontrollable muscle spasms, or sudden movement due to fear of procedures. The hygienist should be prepared to remove instruments at the slightest movement to prevent patients from biting the instruments or the operator's fingers.

Many of the steps in hygiene treatment have psychological implications for the patient. Certain physical handicaps (e.g., cerebral palsy) may limit a patient's ability to control or predict his own movements. This may frustrate the patient because of his inability to co-operate with the hygienist in procedures. By reassuring these patients, you can help them relax. Their posture can influence their sense of security. For example, many wheelchair patients are more physically and mentally relaxed when treated in their chairs, so ask the patient the best means of aid and support during the procedure. Recognize the patients who have been overprotected by their families, and encourage them to become self-sufficient in as much of the hygiene treatment as possible. Because of the patient's lowered stamina and inability to co-operate, he may be unable to tolerate extensive treatment; in such cases, impress him and those accompanying him with the importance of good oral care at home.

Each patient should be instructed in a personal home-care routine suitable to his abilities. To facili-

tate adherence to the program, it should be flexible enough to accommodate those caring for the child at home. Encourage the patient to brush as much as possible on his own. Supervision of the child is advisable particularly when brushing before bedtime. A manual brush adapted to the grip of the patient may be more effective than an electric toothbrush because more direct pressure can be applied. Water irrigating devices can also be extremely effective. Two tongue depressors padded and wrapped with tape at one end provide a simple mouth prop to enable better vision and control for home care. (Figure 1)

To prevent contradictions always consult the patient's physician before diet counselling. The physically disabled tend to eat soft foods, usually high in carbohydrates, which are more readily masticated and swallowed. Poor diet may also result in vitamin deficiencies, further increasing periodontal problems. The hygienist must emphasize the importance of replacing refined carbohydrates with non-cariogenic foods and encourage the intake of detergent foods for gingival stimulation. Often detergent foods will be tolerated if cut into small pieces.

As with all children, a home fluoride treatment program reduces the need for extensive dental repair. This important phase of prevention also ensures greater parental supervision of the child.

Cerebral Palsy

Cerebral palsy is a neuromuscular dysfunction resulting from brain lesions and may be accompanied by epilepsy and mental retardation in varying degrees. The patient's physician should be consulted about the patient's history of convulsions, current drug therapy and estimated level of intelligence to adjust treatment to the needs of the particular patient.

Patience and persistence are necessary to successfully treat these patients. A soft reassuring voice and an explanation of all procedures should help to relax the patient and thus minimize muscle spasms or convulsions. Proper support and comfortable seating provide a greater sense of security and consequently better co-operation. Many patients have body-conformed wheelchairs and are best left in these for maximal body support. Others may be reclined in the dental chair with padding and light restraint.

Hygiene treatment requires certain precautions for the patient's best interests. If mouth props are used, they should be removed frequently to allow muscle relaxation and swallowing. A saliva ejector is essential

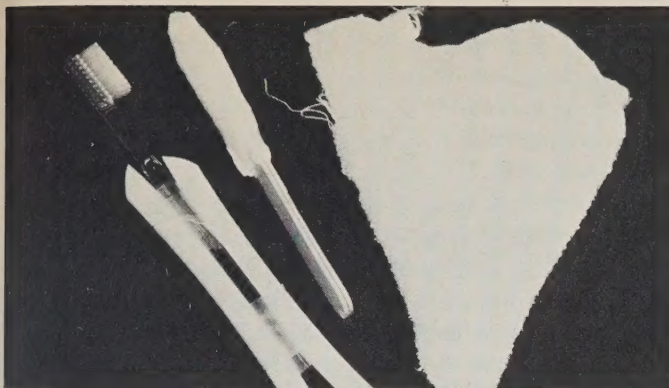


Fig. 1. Articles adapted for easier home care of disabled patients (from left to right) toothbrush with enlarged grip, padded tongue depressors and washcloth.

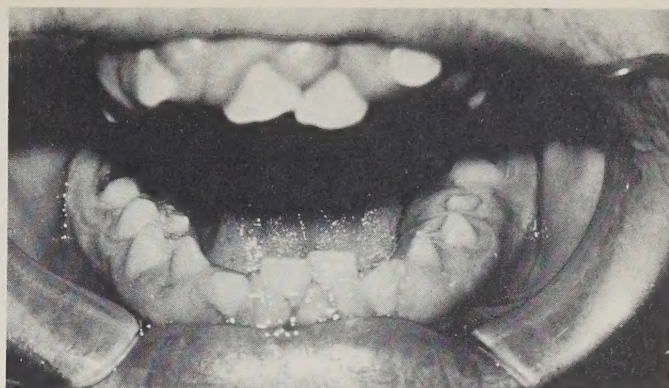


Fig. 2. Enlarged gingiva of a patient on diphenylhydantoin therapy.

to remove debris in cases where copious saliva and poor swallowing reflexes cause gagging. Fulcrums should be buccal rather than occlusal to prevent involuntary biting of the operator's fingers. Plastic mirrors should be used to prevent shattered glass should unexpected biting occur. Fluoride is best applied in plastic trays, one at a time, because gagging with subsequent muscle spasms tends to be induced when cotton rolls are being held by the fingers.

Poor oral hygiene can exist due to mouth-breathing, a soft, sticky diet and inability of the patient to manipulate a brush. Bruxing and diphenylhydantoin tend to magnify inflammatory response of the gingiva to plaque. (Figure 2)

Cradling the patient's tilted head in one's armpit will steady the head and assist opening of the mouth for better viewing. A padded tongue depressor could be supplied to those caring for the patient to aid in more thorough brushing at home. If the cerebral palsy patient is able to care for himself, building up the handle of the toothbrush with bicycle grips, foam rollers(1) or plastic suction tubes may increase control and effectiveness of brushing. (Figure 1)

Patients should be encouraged to eat nutritious foods with a variety of textures. Softer foods are usually favored by these patients because spasms of the tongue or esophagus are not initiated upon swallowing.(2)

Epilepsy

A disorder of the central nervous system, epilepsy involves seizures in the severe cases or trance-like moments in milder cases. The attending physician should be consulted before treatment to learn the history of seizures and medication prescribed.

Prophylaxis becomes difficult when diphenylhydantoin is taken because of fibrous, hyperplastic gingiva which may virtually envelope the teeth. (Figure 2) The epileptic may be depressed or resentful of his epilepsy or enlarged gingiva. A gingivectomy may improve his attitude and provide the hygienist with an excellent opportunity for stressing home care.

Drowsiness may be a side-effect of the medication but the hygienist should watch the patient for

restlessness which can warn of seizure. Should a seizure occur, recline the chair, use light restraint and maintain an open airway by preventing distal displacement of the tongue. Contact the physician immediately, delaying further treatment. After the seizure allow the patient to sleep and check for oral damage.

Parents and patients should realize that gingival inflammation may be reduced by good brushing and physical gingival massage.(3) They should also realize the importance of preventing tooth loss because of the hazard of dentures during a seizure.

Since some epileptics must eat frequently to prevent the onset of seizures caused by low blood sugar, emphasize the importance of low carbohydrate snacks between meals. Inform patients of the value of detergent foods in minimizing gingival problems commonly associated with diphenylhydantoin therapy.

Arthritis

Many physicians prescribe high doses of pain suppressants to arthritic patients and should be consulted about any bleeding problems as a result of ASA ingestion. Care in instrumentation is necessary in arthritics taking ASA to minimize hemorrhage. Difficulty in cleaning may result when temporomandibular joint involvement causes painful and limited opening. Avoid prolonged pressure on the jaw to minimize discomfort, suction saliva to minimize movement for expectoration, and position chair properly to minimize strain on flexing joints.

A kind and pleasant attitude should help to ease these patients who are often discouraged or irritable due to their pain. Assurance that the dental procedure will not inflict pain may aid in relieving a great deal of apprehension.

Arthritic patients often have difficulty in grasping a brush or maintaining a raised arm. Build the handle of the toothbrush up and suggest the patient support or prop his elbow on a table and/or move his head instead of the brush. The difficulty of brushing makes it important for the patient to minimize carbohydrate intake and eat sufficient detergent foods.

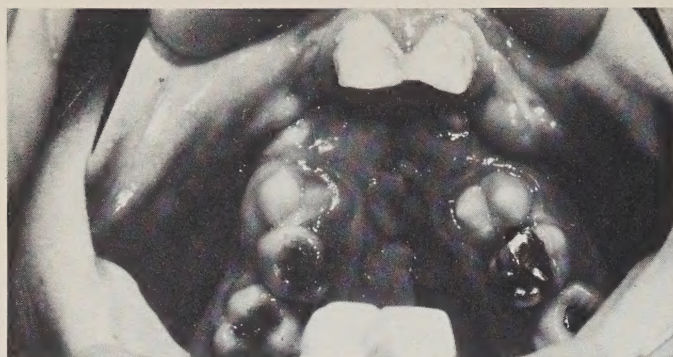


Fig. 3. Oral deformity such as the cleft palate (above) make hygiene care difficult for the patient.

Cleft Lip and Palate

Clefts of the oral cavity may cause aesthetic, dental and speech problems. A high incidence of caries and gingivitis result from disrupted tooth location and tight lip muscles, both of which reduce self-cleansing and make instrumentation difficult. (Figure 3) Support the premaxilla to prevent its movement and apply minimal pressure when fulcruming. When polishing or scaling, take precautions to prevent debris from lodging in fistulas where infection may ensue.

"Cleft" patients are often hypersensitive because of their appearance and tend to be unresponsive and withdrawn. Oral hygiene instruction should be geared towards participation and relaxation. Patient speech may have nasal intonations making understanding difficult. Avoid embarrassing the patient by asking him to repeat words too often.

Oral hygiene instruction should emphasize preservation of both primary and permanent teeth and supporting structures to aid rehabilitation through prosthetics. The cleft palate patient is highly susceptible to infections of the middle ear because the canal is exposed to the oral environment. Good brushing and cleansing of fistulas with cotton swabs or periodontal pics aids in reducing infection. Appliances which may be worn to aid speech, aesthetics or mastication also should be cleansed thoroughly. Stress the importance of regular brushing as mucous secretion in the oral cavity increases halitosis and plaque accumulation on the appliance promotes gingivitis.

The cleft patient has a greater need to eat a low carbohydrate diet and detergent foods because of oral deformities which tend to reduce the effectiveness of self-cleansing of the mouth and of manual brushing. Patients with acrylic appliances may need to be careful of sticky or hard foods which could break their prostheses.

Blindness

The blind person relies heavily on verbal communication, and also taste and touch. An explanation of instruments, flavors and smells and forewarning of your movements during procedures will aid in relaxing the patient. Ensure a clear pathway to the dental

chair and provide assistance if necessary. Reflected glare may interfere with sight or comfort of those partially sighted.(4) Therefore, turn off dental lamp or allow them to use sunglasses. If eyeglasses aid vision, allow the patient to wear them during the procedure to minimize explanations.

A person born blind is generally better adjusted to his environment than one who has lost his sight gradually or as an adult. The blind patient is often anxious leading him to ask many questions and chatter constantly. Know when questions are valid and when to ask for silence. The blind person does things slowly and deliberately to gain perception and prevent accidents.(5) Consider this when oral hygiene instruction is given and encourage independence and self-confidence in home oral care.

Instruction of the blind depends mainly on touch and is most effective when brushing techniques are demonstrated in the patient's mouth. The blind are deprived of the facility to imitate by sight so allow more time for practice.

Deafness

Communication with deaf patients will depend on the use of their remaining senses, particularly sight. Patients who have partial hearing ability may wear a hearing aid that will improve their hearing but not necessarily make it normal, therefore ensure that you face the child when talking so that lip reading can supplement what is heard. Speaking in the patient's "good" ear, eliminating background noises, use of gestures and using alternate words to express the same thought, aid in communication. Important messages or difficult words should be written. If a patient is totally dependent on an interpreter, normal routine should be altered to include him in initial visits and then phase him out once rapport has been established.

The patient may be withdrawn because of the inability to understand others. The child may have temper tantrums, refuse to co-operate, or use other ploys to evoke sympathy. Slowness of procedure and constant reassurance will aid in relaxing the child.

The oral hygiene of deaf patients may be poor because attention is directed mainly to improving their hearing. Caries incidence may be greater than normal in the deaf child who is often rewarded for his success with sweets. An extensive program of prevention should be discussed with the patient and those caring for him. Use of visuals and props will aid in patient instruction.

Mental Retardation

Impairment in adaptive behavior of the mentally retarded results from a sub-average intelligence.(6) Consult with the attending physician regarding severity of child's retardation and social factors which may influence treatment.

Communication with the retarded patient is facilitated by short, simple and direct commands and explanations.(7) Looking at the patient when speaking

to him will help gain his attention. Answer legitimate questions simply and directly once and then insist that the child be quiet. The hygienist should not be deterred by retardation and should treat retarded patients as affectionately as mentally normal ones to attain the best co-operation.

If there are associated cardiac problems (as in Down's syndrome), then antibiotic coverage is indicated before treatment. Unmanageable patients can be immobilized effectively by cradling the child's head tilted back to maintain an open mouth, a sheet can be wrapped holding his appendages tightly against his body, or carefully placed restraints can help to minimize physical damage to patient and operator.

The anxious patient may be full of questions and comments to relieve his fears and postpone treatment.

By instructing the person who cares for the child they can assist, perform or instruct the patient on a day-to-day basis. Oral hygiene instruction to the patient should be limited and repetitive for greater absorption. Allow the patient time in the office and at home to acquire a skill for their co-ordination is often poor. Adapt oral hygiene procedures and techniques for a more realistic home care program, i.e., forego toothpaste if disagreeable to the patient or substitute gauze or a washcloth for a toothbrush. Parents should realize that social acceptance will be greater by eliminating halitosis and plaque-covered teeth.

Gingivitis is common in retarded patients because of their soft diet. Recommendations for the eating of

detergent foods will depend on mastication capabilities.

Conclusion

Dental management of patients with mental and physical disabilities requires patience and diligence. Positive results are often slow in developing but it is a great reward to see improvement. It will become apparent that successful treatment can be accomplished only by the team effort of the dental personnel, the co-operative patient and his overseer.

Acknowledgement

The author thanks Dr. A.F. Dungy of the Dental Department for his technical advice and the Medical Publications Department, The Hospital for Sick Children, for help in preparing this manuscript.

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The Canadian Dental Hygienists' Association Community Dental Health Committee project for 1978 will again be the lapel buttons with a message promoting good dental health for use during Dental Health Month in April and throughout the year. These buttons will be available to all members of the dental health team.

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OCCUPATIONAL HAZARDS IN DENTAL OFFICES: A REVIEW

R.H. ROYDHOUSE, B.D.S., M.S., D.D.Sc.

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Hazard or neglect? Eye damage from a high-speed fragment of gold represents a risk taken, a gamble lost. Self-inflicted damages or even self-poisoning of the dentist are often overlooked. What about risks to other persons? Office personnel may be exposed to hazards not occupational, but created by neglect. For such errors, the dentist as employer is legally liable in many countries. If all else fails, herein lies motivation to reduce the so-called "occupational hazards" of dental practice.

The first and major hazard facing dental office personnel is the sin of concealing causes of disorders that originate about the dental chair. These matters, as has been said, must neither be exaggerated nor neglected. Of great concern to us is the unavailability of statistics about illness among dentists that is directly related to their occupation. Little, if any, information is available for the profession of dental hygiene or for assistants. In relation to dentists, an excellent study by Gennari and Galli(1) in Parma, Italy, lists 132 references. However, there is not one study reported in English since 1960. Anecdotal detail abounds. I have had a sliver of gold removed from my eye, and another dentist has been unable to practice because of an uncontrollable tremor, possibly caused by mercury poisoning. Two assistants are changing occupations currently because of suspected mercury poisoning.

Diagnosticians and clinicians know of the difficulties that arise with sub-clinical entities. When an order is insufficiently developed or when the response is masked by resistance or other conditions, such a state is said to be a sub-clinical disorder. The diagnostician is sometimes suspicious that the patient has a particular disorder, but not badly enough to

require treatment. That is exactly the situation with occupational disorders in dentistry; rumor and suspicion abound, but facts are few. Therefore, a review of this kind will not be all-inclusive or totally scientific and dispassionate. Nor should it be, because the patients in this instance are ourselves.

We should put ourselves first in matters of health. Each reader knows that his or her daily performance varies, and the day that he is sick, tired, frustrated or uncomfortable is the day that mistakes are made. Failure to diagnose an impacted molar in an edentulous mouth, unnecessary pulp exposures and premature setting of the cement during final placement of a six-unit bridge are incidents that occur on the dentist's off-days, and the catastrophic results affect our patients. For the hygienist, neglected calculus, failure to identify an 8 mm pocket or unnecessary trauma to existing periodontium do not happen on a "good" day. If we look after our own health intelligently, our patients and associates will suffer less. It is absurd to work in a health profession, advising patients on preventive methods and on curing their present health problems, in an atmosphere (not a metaphorical one but a real one) that affects or destroys one's health.

Categories for consideration

What categories should be considered? Respiratory diseases, viral infections, direct contamination, effects of materials and devices and psychological disorders are but five categories arbitrarily chosen. Gennari and Galli used a systematic approach: vertebral, cervical and muscular, eye, allergic reactions to materials, damage to hands, radiation damage, psychological disorders and gastrointestinal effects. In each category they found significant numbers of occurrences. Their study involved 1849 replies to 4000 questionnaires sent to dentists. The present paper uses indirect information, because no statistics are available or even kept.

The death rate(2) among dentists in the United States from respiratory diseases rose from 3.21 percent in 1955-60 to 6.61 percent in 1968-72. The incidence in the general male population is 5.82 percent, and for dentists, 6.48 percent. Dentists suffer more than the population at large, but more alarming, a deterioration has occurred.

Two questions can be asked. First, what caused this change? Second, why are dentists affected more often than other normal males? The questions are possibly simply answered — high-speed handpieces.

Consider that various military establishments have sought methods of killing people quickly. Dentists have found the very method that military research has shown to be most successful. A bacteria or virus-laden aerosol (water plus particulate matter suspended in air) is very effective. During each cutting operation in the mouth, a fog of every conceivable organism (if listed in single-spaced typing, the organisms identified in the mouth will fill four pages with the names of bacteria alone) and virus pours up from the handpiece. How much gets into the lungs of dentist and auxiliary? There have been studies(3) on the emissions. The Italian survey showed chronic bronchitis (five percent) as the major offender in respiratory disorders (10 percent). Anyone can see the fog generated by illuminating the area with strong light. Likewise the mixture of abrasive and saliva during prophylaxis sprays about like a garden hose. Inspection of the uniform and eyeglasses is more illustrative than words.

A clear statement can be made: there is a problem of respiratory disorders in dentists. Any person — dentist, hygienist, or assistant (even onlooker) — working about a mouth in which a high-speed handpiece is being used and who is not wearing a mask is risking respiratory disorders more than that of the normal population and twice that of dentists 20 years ago. This is a true hazard affecting all personnel in the office. It seems to be a hazard greater than smoking cigarettes, which some of us ban in our offices. The dentist pollutes the air in the dental office with worse materials. There is no reason to believe that the aerosol is confined to the area about the dental chair. Skillful use of the suction apparatus is essential. Regular changing of air filters in conditioning systems, at least monthly, is a must. There is a need for high-speed evacuation devices about the patient, activated whenever the handpiece is used and when silver amalgam is packed.

Viral infections

"Saliva is probably the main vehicle of infection in nonparentally acquired hepatitis B," stated Villarejos. (4) What do surveys show? After surveying 1245 dentists, Mosley(5,6) found that infection of dentists by hepatitis B increases with age, and that the risk for dentists is two to three times or more than that of the normal population. Lawyers in Miami had an incidence of 2.4 percent (all forms of hepatitis), accountants in

Ontario 5.1 percent and dentists 7.2 percent with 3.3 percent of that due to hepatitis B. Infectious hepatitis (A) has been common, and serum hepatitis (B) is a severe form associated with blood transfusions, renal dialysis and drug addiction. The A version may produce jaundice and general ill health, taking four to six weeks to pursue its course, during which time the patient is on a strict diet to prevent liver damage. It is not uncommon to feel ill sporadically for six to twelve months afterward. Serum hepatitis B may produce focal necrosis of the liver with subsequent failure after varying lengths of time. The disorder varies in its effects, but hepatitis B could never be classified as a minor disorder. The awesome reputation of serum hepatitis was established by quite recent isolated epidemics associated with renal dialysis units and resulting in the deaths of physicians and nurses. As well there is a suspected association with liver cancer.

Although there have been epidemics recognized since the 8th Century, Western civilization has been remarkably free from hepatitis, generally, because of ordinary household hygiene. An increase(7) is the trend in the pattern of hepatitis B, especially among adults. Transmission occurs when inadequately sterilized instruments are used. Most epidemics have been related to inoculation and vaccination procedures. Moreover, compelling evidence shows that it can be transmitted to spouses or sexual partners.

In view of these facts, how are dental personnel affected? We can only tell by examining statistics related to dentists. For hygienists, the risk could be the same or less, but scarcely more.

The rates of prevalence of both forms of hepatitis among British dentists was one in 83, and among the general population it was one in 1100. The rate for hepatitis B detected in blood from this group of British dentists was one in 116.(8) In dentists in Los Angeles, the rate is one in 37 (both forms). These rates tend to err because of low detection rates. Thus, the figures reflect an incidence that is too low, the reverse of exaggeration. In Vancouver(9), the rate among blood was 1:800 for serum hepatitis, but when a more sensitive detection was used, the rate fell to one in 500. Mosley's statistics(5,6) show that a dentist after 20 years of practice has a 15 percent chance of having had hepatitis B, and a 22 percent chance after 30 years of practice. In short, the rate among dentists is at least three to six times greater than the population at large. This is based on past statistics, not what is happening today. It is estimated that 50 percent of surgeons have experienced the disorder.(7)

Two sources of transmission are seen. First there is saliva, as mentioned, and there is adequate evidence (4) of the presence of both forms of hepatitis virus in saliva. But blood is worse: oral surgeons and periodontists have the highest incidence among dentists. As one microbiologist put it, "If you want viruses you'll find them in blood if nowhere else."

Again a clear statement can be made: both forms of hepatitis are a considerable hazard to dentists. The dentist is at risk, rivaled only by drug addicts(7) using aseptic communal skin puncturing techniques.

The solutions to the problem are as yet uncertain. A vaccine is being tested,(10) but is not available generally. Its safety and efficacy are being assessed. The nature of transmission, the reasons for susceptibility and the strange form of the outbreaks make it hard to understand how to prevent the disorder. However, the following can be stated almost categorically.

At no time should dental personnel be careless with blood or blood contaminated instruments, swabs or towels. Historically we have regarded blood as a harmless fluid because it was usually sterile in contrast to saliva. That is no longer so. Amounts of less than 0.0001 ml. from patients with hepatitis B have transferred enough virus to cause the disease. If one has an open lesion of any kind on the hands, and blood is likely to be involved in the dental operation, gloves should be worn. Some would advise gloves for all operations involving blood. The other element in the solution is to rigorously enforce old-fashioned cleanliness. All surfaces that may possibly be coated with saliva should be cleaned immediately with chlorinated cleansers. The simplest effective means of controlling contamination for viruses and bacteria is to use bleaching or chlorine-releasing cleansers.

As a public health measure, dental personnel should be tested for hepatitis. However, the ethical problems that arise are complex. There is evidence that patients have been infected by dentists.(12, 13) If a dental clinical operator is found to be positive, should they be forced to cease contact with patients? There is what is called the carrier state, in this the subjects have antigen (infective agent) in their blood, saliva, etc., but do not show the symptoms of the disease. At the present time they cannot be treated, and as well may be a source of infection. But as pointed out by Blumberg,(10) there are similar carriers of staphylococcus and typhoid who are neither tested nor discriminated against. Whatever are the ethical, public health or philosophical problems, looking after ourselves will be the best preventive medicine for all.

All patients should be asked about jaundice or hepatitis. Those with any form of hepatitis should not be treated until the operator has assured himself that they are not a source of infection. Effective medical consultation is required.

Infection from patients in the dental office, other than Hepatitis B, has been a problem for many years. In British Columbia, about 80 instances of syphilis are reported annually, an incidence of one in 30,000. In Italy, six of 1849 dentists reported infection from patients by spirochaetes. Gonorrhea, in contrast, had an incidence of one in 88 in the United States in 1974, with the highest incidence among 15- to 29 year-olds. This incidence of the common cold is comparable.

What is forgotten are the vehicles on which these organisms, and the viruses, are transported. Impressions, casts, dentures and handpieces become coated with saliva. Anecdotal evidence tells of dentists with abscesses, and spreading infections of hands, noses, eyes, ears and skin. Glasses and masks must be worn by personnel during dental operations. There can be no justification for inappropriate protection. Of dentists in the Italian study, 18 percent reported lesions or damages to the eyes, and all reported hand wounds and infections of various kinds.

The sight of dental auxiliaries in their uniforms going home after work is not a pleasant one — rather it is an expression of the irresponsibility of their employers and associates. They have been working in a bacteria-laden atmosphere, have probably become contaminated with saliva and are taking it all home with them.

We have no direct evidence about such transmission of infectious disorders. We know of transferred monilia infections, and very likely respiratory disorders (seven Italian dentists with tuberculosis and 47 with typhoid). The prevention recipe is the same as for viral infections: a high standard of cleanliness and a surgical approach that protects not only the patient but the operators as well.

Materials and devices

Is mercury a problem? Consider the evidence. The highly toxic methylmercury that characterizes the so-called Minimata poisoning of Japanese fishermen, is accused in outbreaks in Alamogordo, New Mexico, Iran and Northern Ontario. This form is absorbed quickly and retained in the body longer than the mercury ion, or elemental mercury. The microbial flora of the intestine of man has the potential to transform the mercury ion into the highly toxic methylmercury.(15) There is insufficient understanding of the nature of mercury poisoning resulting from exposure to mercury vapor. The threshold limit value for mercury in the vapor form was arbitrarily reduced from 0.1 mg/m³ of air to 0.05 about five years ago. This industrial hygiene standard applies to factories where mercury is used. It is a measure of the amount of mercury in the air, not a measure of how much is ingested or retained. Mercury inhaled or swallowed is not excreted totally. A high mercury excretion in urine indicates a high exposure, but says nothing about how much was retained and converted into methylmercury.

Because of the complexity of individual response to poisons, the exposure (vapor concentration and hours spent therein), the excretion rate (in urine, feces and perspiration), the amount inhaled versus amount swallowed and a variety of other factors, it is not possible to say that a particular level of air contamination is dangerous, or, for that matter, safe.

Even more alarming is the increasing possibility of synergistic effects. Nobody knows if another element, lead, for example, acts with mercury. A lower level of mercury ingestion or inhalation may, in combination

with lead, produce the symptoms of a lead-mercury overdose. There is no direct evidence of this phenomenon, but suspicion abounds. For all that is known, the residual traces of detergents on dishes may act to enhance mercury absorption. The possibilities are unlimited when the results of air and water pollution plus dentally generated pollution are combined.

Consider our possible dental problem in another way. Assess the scale of the contamination not as figures but as a concrete example, such as the Empire State Building. Set the former "safe" level of 0.1 mg/m^3 as equivalent to the top floor of the Empire State Building. This level was reduced to $0.05 \text{ mg/cubic meter}$, that is, to the 51st floor of the Empire State Building. What is the level of mercury vapor in fresh air?(16) It is three to four nanograms (ng)/ m^3 which is as the height of a package of cigarettes lying on its side to the height of the Empire State Building. The highest nonindustrial level (a room freshly painted with latex paint) is, on the same scale, about four feet off the ground.

Gronka(17), in 1970 found that one in seven operating areas had a level about 0.1 mg/m^3 . He also found that warming apparatus with forced air could return air with 20 percent more mercury. In addition, he found a level of 0.03 mg/m^3 in a dentist's house caused by mercury transferred by his shoes. Imagine what the floor of his car was like! Kasloff(18) showed that 52 percent of offices with carpets exceeded the 0.05 mg/m^3 level. Schneider(19) found that the average for nineteen offices was 0.03 mg/m^3 . Also, 30 of 74 dental assistants handling amalgam had urinary mercury levels about $30 \mu\text{g/L}$. A top limit of $10 \mu\text{g/L}$ urinary mercury occurred in non-exposed personnel; this is high by normal standards.

There are numerous studies, some of which attempt to be reassuring. Mercury is called(20) an "enigma" or a riddle. It is not a riddle, it is a completely unnecessary risk. The editorials of our prestigious dental journals should scold dental personnel for being careless. No valid excuse exists for high mercury concentration in air; there is little understanding of the scale of the disturbance. If a dentist or hygienist is exposed to 17,000 times as much mercury as there is in fresh air, does it matter? If an assistant excretes three times more mercury than her colleagues in a business office, is it significant? The answer is simple. It is highly improper and unethical. The contaminating source is the mercury of the amalgam, and it can be controlled simply and relatively inexpensively.

The concentration of mercury in the clinic at the University of British Columbia on a busy winter afternoon with 60 students operating was 150 ng/m^3 which is 50 times the fresh air value and one-sixth-hundredth of the threshold level value. The reasons for such are simple: the air exhaust system is double that for similar large areas and is not recycled, and the standard of cleanliness is high. Not satisfied with this level, the department of restorative dentistry is

installing filtered air enclosures for all amalgamators. All assistants wear gloves when handling amalgam because absorption by contact(21) is high.

Detectable mercury vapour is produced when amalgam is cut or polished. During such operations, suction should be on near the patient's mouth so the vapour is not inhaled by the dentist or hygienist.

By stopping contamination, the mercury levels can be reduced. Various decontamination kits are available for spilled mercury. All traps in sinks where mercury or amalgam has been placed should be emptied and cleaned. The office should be clean and tidy, with operating areas free of carpet. Vacuum cleaners used in the office should not be stored where they will continue to contaminate the air. All mercury scrap and amalgam should be sent to metal refinery companies — not flushed down toilets or drains to return as contaminated seafood.

What other materials or devices are there of consequence? High-speed debris from high-speed handpieces can and does do extreme damage to eyes. There are few dental jobs for the blind, and glasses are easily obtained. Eye injury is entirely avoidable.

A variety of plastic materials with known and unknown effects is used in dentistry. All composites and sealants contain benzoyl peroxide and tertiary amines. Both materials can produce sensitivity reactions, and sensitization comes from handling them carelessly. No auxiliary should touch unset composite resins. If by accident the hands come into contact with such materials, they should be washed immediately. Earlier carelessness has made this writer sensitive to benzoyl peroxide.

Good ventilation is essential in the dental office and laboratory. In one investigation, Tansy(22) found that a decrease in gastric motor activity occurred on exposure to the vapor from acrylic resin liquid; people feel nauseated or suffer loss of appetite. About one-half of a group of 40 dental technicians noticed that their fingers swell or their faces blush when they use acrylic resin. Again, caution is advised, and tidy habits are not Victorian moral perjoratives, but are for the protection of oneself.

Psychological disorders

Under the heading of "death due to psychoneurotic disorders," the mean age at death for dentists (1955-60) was 51.3 and for all males was 55.6 years. By 1968-72 the age rose to 75 years for dentists. However, under "accidents, poisonings and violence" the mean age in 1968-1972 for dentists dropped to 55.2 years, from 60 in 1955-60. Either psychoneurotic disorders are less of a problem now, or dentists are killing themselves off in aircraft accidents or by violent means. Is a more vigorous population of dentists replacing a group prone to neurotic disorders? A variety of completely unsubstantiated reports by dental speakers and writers suggest the suicide rate for dentists is second only to psychiatrists. This is not in record with the facts.

The Italian study indicates that 18 percent felt that they had some nervous disorders, such as insomnia (four percent), depression (three percent) and lassitude (four percent). In the authors' opinion, there was a relationship with hours of work. The greatest incidence was among those in their sixth to fifteenth year after graduation, who worked eight to nine hours a day.

Dentists, although maybe financially better off over the last 50 years, may have lost status and respect. Wealthy pariahs are not necessarily happier than respected bankrupts. The role in society of dental health professionals is surely more than restorations, dentures and prevention of dental disease. They are in a unique position in the health field, because most patients are ambulatory and healthy. Dental health professionals should play a larger part in preventive medicine and in the general role as guardians of society. Their sense of social responsibility should be available to all levels of society as a counselor by virtue of the respect in which they are held. Such may be a way of life of greater satisfaction than the fabrication of margins of gold, or the removal of calculus. However, we must learn how to earn this respect, and reduction of our own hazards is a good start in responsible behavior towards others in the dental office.

Conclusion

In trying to establish the occupational hazards of working in a dental office, we have made use of Medline and Toxline, which are computer indexing devices. After suitable input, lists of articles on various subjects are returned. It was noteworthy that only two articles about occupational hazards in dentistry were found from the last five years. However, on the subjects of viral hepatitis and the possibility of mercurialism among dentists and workers in various industries there were many publications. It is possible that our chief hazard is ignorance of our own environments.

Respiratory diseases are claiming more dentists' lives now than before; the rate has doubled in ten years. This is attributed to the aerosols from high-speed cutting, which seems the most likely source. Dentists are about three to six times more often infected by hepatitis B than ordinary citizens because of transmission of the virus by blood and saliva. Dental personnel are exposed daily to several thousand times as much mercury vapor as is in fresh air. It could hardly be said that this would improve their health. The solution to these and other problems requires effort and money. Perhaps a heightened awareness will lead to dental office hygiene and routine that will decrease the illness rate among dental personnel. It is a serious problem which, if left unattended, will get worse.

This review emphasizes the need for prevention. We all agree that patients should look after their teeth better, but we refuse to do the same for our-

selves. By careless, thoughtless behavior we prejudice the health of ourselves and our associates. In the days of antibiotics, we have grown careless about infection, and our own pollution is catching up with us. Our own clever devices are found to be damaging to ourselves. However, as individuals we do not know how much each of us is affected. Our only option is to eliminate all known sources of occupational hazard and hope that the unknown ones are minor.

Acknowledgment

Dr. Roydhouse acknowledges the continued help of the Woodward Biomedical Library, especially the Medline and Toxline sections, and Mrs. D. Kent.

(This paper was originally published in the journal of the Academy of General Dentistry, but has been revised and updated, October 1977.)

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ABSTRACTS

CARIES UNDER A SEALANT

The placement of a sealant on an occlusal surface containing undetected caries may not be as serious as was once feared.

A 7-year-old boy who was participating in a fissure sealant study was examined in a school clinic. His mandibular first permanent molars were deemed suitable for the study, and a sealant (3M Co., St. Paul) was placed on the occlusal surface of the right molar. The left molar was left unsealed to serve as a control.

Four months later, bitewing radiographs taken by the family dentist disclosed occlusal caries in both mandibular molars at equal depths. The extent of the caries indicated that it must have been present at the initial examination. The left molar was restored with silver amalgam; the sealed molar was re-examined visually and radiographically at nine months. The sealant was intact and the radiographs did not indicate any increase in the depth of the caries. At 13 months, the tooth was restored. Aerobic bacteria counts performed on samples taken at various depths were much lower than would be expected for active caries. The low counts could have been due to a technical error or they could indicate an actual reduction in the number of aerobic organisms, thus supporting Handelman's findings (1973). (Richardson, A.S. Faculty of Dentistry, University of British Columbia, Vancouver, British Columbia. Caries under an occlusal sealant. *J Can Dent Assoc* 43:188 April 1977)

ABNORMALITIES DETECTED IN PANORAMIC RADIOGRAPHS

Three hundred consecutive panoramic radiographs taken in the dental hygiene clinic of a community college were examined to determine the types of radiographic abnormalities that could be seen. Abnormalities were detected in 126 of 300 radiographs (42%).

Third molars accounted for 151 of the 154 embedded teeth discovered in 69 of the 300 radiographs. Other embedded teeth included two mandibular canines and one supernumerary tooth. Five dentigerous cysts were identified, all of them associated with mandibular third molars. Seventy-eight congenitally missing teeth were identified in 31 radiographs (10.2%). Of these, 58 were third

molars, and the remainder were lateral incisors and pre-molars.

Other abnormalities noted were maxillary sinus mucocoeles, periapical pathology associated with carious teeth, localized radiopaque areas consistent with condensing osteitis, and residual dental structures such as root fragments. There were three supernumerary teeth, two erupted and one embedded. (Frome, Katherine; Dickert, Phillis; Silko, Kathleen; and Miller, Arthur S. Montgomery County Community College, Blue Bell, Pa. Panographic survey. *Dent Hyg* 51:208-210 May 1977)

PREVENTION OF BACTERIAL ENDOCARDITIS

Bacterial endocarditis remains one of the most serious complications of cardiac disease. Effective measures for prevention of this infection by physicians and dentists are highly desirable.

Patients at risk to develop infective endocarditis should maintain the highest level of oral health to reduce potential sources of bacterial seeding. Even in the absence of dental procedures, poor dental hygiene or other dental disease such as periodontal or periapical infections may induce bacteremia. Nor are patients without natural teeth free from the risk of bacterial endocarditis. Ulcers caused by ill-fitting dentures should be cared for promptly inasmuch as they may be a source of bacteremia.

Antibiotic prophylaxis is recommended with all dental procedures (including routine professional cleaning) that are likely to cause gingival bleeding. Chemoprophylaxis for dental procedures in children should be managed as it is for adults. There are no data, however, to suggest significant risk of bacteremia in connection with the spontaneous shedding of deciduous teeth.

Inasmuch as alpha-hemolytic streptococci are the organisms most commonly implicated in bacterial endocarditis after dental procedures, antibiotic prophylaxis should be directed specifically to them. (American Heart Association, 7320 Greenville Ave., Dallas, Tex. 75231. Prevention of bacterial endocarditis. *JADA* 95:600-605 Sept. 1977)

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Winnipeg, Manitoba, Canada R3E 0W3

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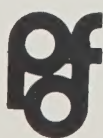
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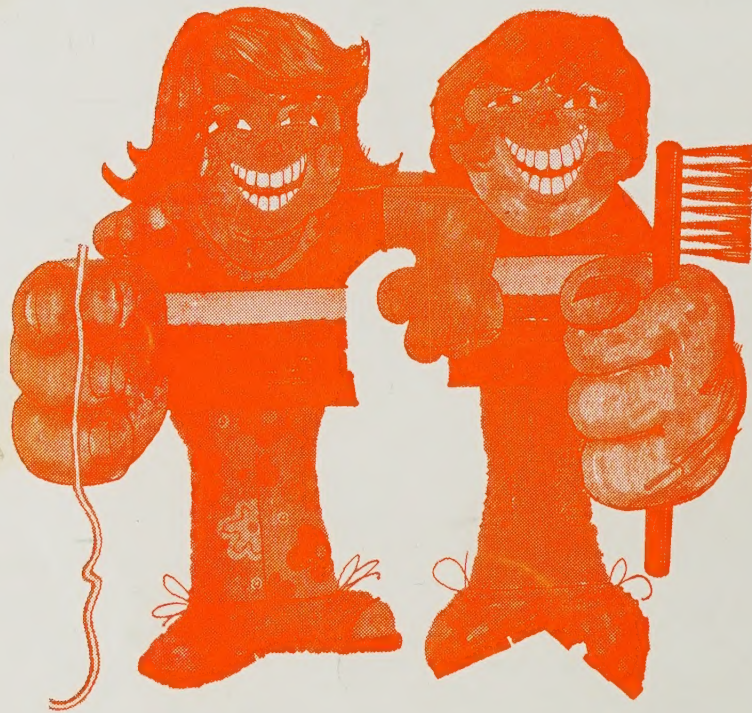
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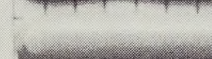
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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

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VOLUME 12, NO. 2

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are \$10 per year in Canada and \$12 per year for all other countries. Subscriptions are payable to January 1st and new subscribers should not remit until billed.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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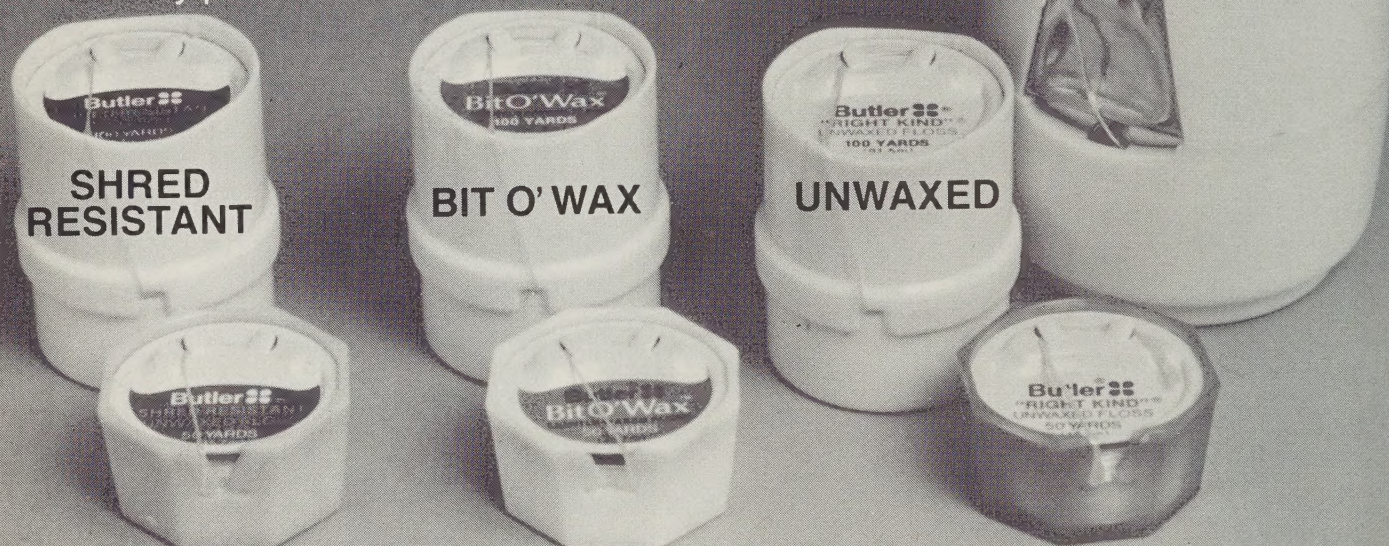
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CFDE'S 1977 INCOME OVER \$235,000

"Last year for the first time ever since it was started in 1962, the Canadian Fund for Dental Education's income exceeded \$200,000," it has been announced by Chairman Dr. John W. Neilson.

"Again in 1977 personal gifts from dentists and their auxiliaries of over \$63,000 were the Fund's largest single source of income and 9% more than in the previous year. Dental organizations did their part with a fine increase of over 15%. Also included in the 1977 income was a \$3,000 contribution to an existing dental study club's endowment fund."

"This continuing leadership by members of the profession undoubtedly helped to prompt substantial increases in gifts from foundations and business and industry."

"We of the Fund are proud of this record amount of income and deeply grateful to our many contributors whose generous help made it possible. It enabled CFDE to provide more badly needed assistance for dental education and research in 1977 than in any previous year," said Dr. Neilson.

MINISTER OF NATIONAL HEALTH AND WELFARE ISSUES STATEMENT ON FLUORIDATION

Thirty-two years ago, on June 20, 1945, the City of Brantford was the first in Canada, and one of the first three in the world, to initiate fluoridation of its municipal water supplies to improve the dental health of its citizens. Today, nearly 600 Canadian communities, with a population of over 8½ million, are enjoying the protection and savings resulting from drinking water containing fluoride at or near the optimal level.

For many years my Department has been satisfied that fluoridation of community water supplies is the most important, practical and effective public health measure currently available for safely and economically reducing the incidence of dental disease. I therefore advocate the widest practicable implementation of this public health measure by the authorities responsible for community water supplies in Canada.

Monique Bégin

TOWARDS A SAFER AND WISER DIET

The Department of Health and Welfare Canada is taking new initiatives to ensure the safety, nutritional quality and wise choice of foods consumed by Canadians. In conjunction with provincial authorities, it is developing a public awareness program to encourage improved eating habits. This program is based on the recommendations of an Expert Committee's Report on Diet and Cardiovascular Disease and on the Nutrition Canada survey. It stresses the need for Canadians to consume more fruits, vegetables and whole grain cereals, fewer calories and less fat, sugar and salt. To assist in the development of the program, a national conference for health professionals and nutrition educators will be held later this year.

Among the department's initiatives is a comprehensive food and nutrition program being developed in consultation with the Government of the Northwest Territories specifically for the Inuit and other northern Canadians. The Department of National Health and Welfare is also offering to collaborate with the provinces in determining the nutritional status of high risk groups by nutrition surveys and assisting with appropriate follow-up. Work is now underway with experts from Memorial University in St. John's on plans for such a survey in Labrador.

With the Department of Consumer and Corporate Affairs, the Department of National Health and Welfare is examining ways by which food labelling can provide more nutritional information for consumers. Special attention is being placed on mention of calories to permit customers to make meaningful comparisons between foods.

It is noted that consumers are concerned about both nutrition and food safety. Nutritious foods may be rendered harmful through improper storage, handling or transportation practices. Under the auspices of the Health Protection Branch, discussions are being held with other federal departments and the provinces on the need for regulations to control storage, handling and transportation of perishable foods. Guidelines are being developed for the testing of new foods which replace traditional counterparts. These are essential to ensure that new products are at least as safe and nutritious as the traditional foods they replace.

CANADIANS URGED TO HEED DANGERS OF HYPERTENSION

In a statement supporting this year's World Health Organization (WHO) campaign against high blood pressure, Health and Welfare Minister Monique Bégin urged all Canadians to heed warnings about the dangers of that disease. High blood pressure, or hypertension, is an insidious disease that can result in kidney failure, heart failure or stroke if neglected or inadequately treated. It came under attack when WHO launched a world-wide campaign, *Down With High Blood Pressure*, on World Health Day, April 7.

Studies conducted by WHO throughout industrialized countries show 15 per cent of their populations have blood pressure over the acceptable limit of 160/95 mm of mercury. Of this number scarcely one-third are under treatment. Expert task forces which recently examined the high blood pressure problem for the Ontario Council of Health, the Canadian Heart Foundation and the Canadian Cardiovascular Society, concluded that sufficient undetected and untreated hypertension exists in Canada to justify a major detection effort. They recommend that this be done within existing primary medical services which can arrange investigation and treatment if necessary.

Research by WHO indicates that poor societies appear to be less inclined to develop hypertension; however, no human group appears totally unaffected. For this reason WHO is also concerned for those regions of the world with a low doctor-patient ratio.

LETTER OF COMMENT

I want you to know how much I enjoyed the superb article, "Dental Hygiene: The Maturation of a Profession" by Sharon French in the spring issue of the CDHA journal. She really "zeroed-in" on our major issues and presented them in a very thought-provoking manner. It will give the general membership a better understanding of the things we are trying to do on their behalf.

Debbie Lang, ODHA Delegate to the CDHA Board of Directors

What are **your** views on the subjects of features and articles published in the journal? Letters of comment are invited and should be sent care of the CDHA Editor, 10560 Milford Drive, Richmond, B.C. V7A 4J7.

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MINISTRE DE LA SANTÉ NATIONALE ET DU BIEN-ÊTRE SOCIAL RAPPORT SUR LA FLUORIDATION

Il y a trente-deux ans, le 20 juin 1945, Brantford a été la première ville canadienne et une des trois premières du monde à ajouter du fluor à l'eau distribuée aux usagers, pour une meilleure santé dentaire de tous ses habitants. Aujourd'hui, presque 600 localités canadiennes regroupant plus de 8½ millions de personnes, bénéficient de la protection et des économies qui résultent de la fluoration de l'eau.

Le ministère que je dirige estime depuis longtemps que la fluoration est le meilleur moyen de réduire de façon économique et saine l'incidence de la carie dentaire. J'engage donc les autorités qui, au Canada, sont chargées de la distribution des eaux, à recourir largement à cette mesure d'hygiène publique.

Monique Bégin

LES CANADIENS SONT EXHORTÉS À PRENDRE GARDE AU DANGER PRÉSENTÉ PAR L'HYPERTENSION

Dans une déclaration en faveur de la campagne de lutte contre l'hypertension, lancée cette année par l'Organisation mondiale de la Santé (O.M.S.), le ministre de la Santé nationale et du bien-être social, Monique Bégin, exhorta tous les Canadiens à être attentifs aux avertissements relatifs au danger présenté par ce syndrome.

L'hypertension, ou tension artérielle élevée, est une maladie insidieuse pouvant dégénérer en insuffisance rénale, en crise cardiaque ou en attaque d'apoplexie, si elle est négligée ou mal soignée. La Journée mondiale de la santé, le 7 avril prochain, marquera le début de l'offensive menée par l'O.M.S. dans le cadre d'une campagne mondiale ayant pour thème "A bas l'hypertension!"

Mlle Bégin a précisé que des études menées par l'O.M.S. dans les pays industrialisés ont montré que 15 pour cent de la population présente une tension artérielle dépassant la limite acceptable de 160/95 mm de mercure et que moins d'un tiers des personnes concernées suivent un traitement. Des groupes d'experts ont récemment étudié le problème de l'hypertension pour le compte du Conseil ontarien de la santé, le même que pour la Fondation canadienne des maladies du cœur et la société canadienne de cardiologie et ont conclu qu'il y a au Canada suffisamment de cas d'hypertension non-décélés et non-traités pour justifier un important programme de détection. Les experts recommandent que ce programme

soit confié aux services médicaux réguliers, qui sont les mieux à même pour étudier les cas et assurer les traitements lorsque nécessaires.

Des recherches effectuées par l'O.M.S. ont révélé que les populations économiquement défavorisées sont moins sujettes à l'hypertension, mais qu'aucun groupe humain n'en semble totalement exempt. C'est pour cette raison que l'O.M.S. est également préoccupée par les régions du monde où le taux médecin/patients est faible.

ADA PAMPHLETS DESCRIBE BENEFITS OF RADIOGRAPHS

Many patients are concerned about the use of dental radiographs, and two new pamphlets published by the American Dental Association Bureau of Dental Health Education can help dentists tell their patients about the benefits of the radiographs.

"Dental X-rays and Your Health" (G14), is a brief enclosure item that tells patients about the benefits of a radiographic examination and about the modern techniques and materials that are used.

"X-rays and Your Teeth" (G3), illustrates the types of radiographs, and a number of conditions that can be diagnosed through their use. Illustrations include panoramic radiographs, early and advanced decay, orthodontic problems, developing teeth, and bone resorption.

Single samples of these pamphlets are available from the Bureau of Dental Health Education. The pamphlets also are available for purchase in quantity from the ADA Order Section, 211 E Chicago Ave., Chicago, 60611. The price for G14 is (100) \$2.80, (500) \$13.30; G3 can be ordered for (25) \$1.80, (100) \$6.50.

CHANGES IN DIET URGED

Canadians are reminded of the need to improve their eating habits in order to reduce the risks associated with heart disease. They are urged to decrease their intake of foods high in calories, fat, sugar and salt and to increase their consumption of fruits, vegetables and whole grain cereals.

Heart disease accounts for half of all deaths in this country; it is the major cause of death in middle-aged males and costs the Canadian economy an estimated \$2 billion every year. Inappropriate dietary habits, smoking, immoderate alcohol consumption, high blood pressure, diabetes, obesity and lack of physical fitness all increase the chance of heart attack.

In drawing attention to these risk factors, it is pointed out that most are related to an individual's lifestyle and

can be changed. An education program to increase public awareness of the need for a better diet began in February and is supported at the provincial level through public health and fitness programs. The Canadian Heart Foundation is collaborating in this campaign.

The program is in response to recommendations made last year by a committee set up by the Department of National Health and Welfare to study the link between diet and cardiovascular disease. The dietary recommendations are:

- a) The consumption of a nutritionally adequate diet, as outlined in Canada's Food Guide;
- b) A reduction in calories from fat to 35 per cent of total calories, include a source of polyunsaturated fatty acid (linoleic acid) in the diet;
- c) The consumption of a diet which emphasizes whole grain products and fruits and vegetables and minimizes alcohol, salt and refined sugars;
- d) The prevention and control of obesity through reducing excess consumption of calories and increasing physical activity. Precautions should be taken that no deficiency of vitamins and minerals occurs when total calories are reduced.

A new publication, *Food and Your Heart*, is available to Canadians who are concerned about their eating habits and heart disease. Copies can be obtained from provincial health departments, local health units or the Heart Foundation.

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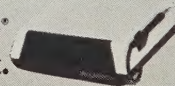
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SMOKING AND PREMATURE DEATH

A study by the Department of National Health and Welfare links smoking to five main causes of premature mortality — lung cancer, various types of throat cancer, chronic bronchitis and emphysema, heart disease and cerebrovascular disease — resulting in approximately 12 per cent of all premature deaths in Canada. Researchers reviewed all causes of death appearing in the International Classification of Diseases to determine those causes related to specific risk factors. For each cause, all available epidemiological data were used to derive the attributable percentages corresponding to smoking.

Out of a total of 73,440 deaths studied, between ages one and 70, the 718 attributable to smoking represent 105,085 potential years of life lost. Calculating the potential years of life lost consists of a summation over all age groups between one and 70, of the number of deaths at a specific age multiplied by the remaining years of life up to age 70. For example, a death at age 30 from a particular cause contributes 40 years to the total potential years of life lost due to that cause.

Citing the economic costs of smoking in terms of health care and potential years of life lost, the Minister suggested that more government action to discourage smoking, such as recently-adopted municipal anti-smoking by-laws, may be needed.

The study, which documents the effects of smoking on premature death rates, will be used primarily by health policy decision-makers who need this type of quantitative information to decide on long-term preventive actions and signals to all Canadians the obvious dangers of smoking.

CORRECTIONS TO REGISTRATION, LICENSURE AND PRACTICE INFORMATION

Please note the following corrections to the information contained in the last issue of the journal.

Manitoba. The annual license fee is \$2.00, not \$10.00.

Ontario. Completed application with proof of graduation from a course in dental hygiene conducted by an Ontario College of Applied Arts and Technology, or such other course or courses in dental hygiene as may be approved by the Council as being equivalent. All applicants for licensure are required to sit examinations conducted by the Royal College of Dental Surgeons of Ontario. Examination fee:

\$100. Registration fee: \$25. Annual license fee: \$50.

The following duties may be performed by a dental hygienist licensed to practice in Ontario: taking impressions of teeth for study models; topical application of anticariogenic agents; placement and removal of rubber dam; maintenance of a patient's oral hygiene; preliminary examination of the oral cavity and surrounding structures including the taking of a case history, periodontal examination and recording of clinical findings; complete prophylaxis including scaling, root planing and polishing of fillings; application and removal of a periodontal pack; and application of fissure sealants. In addition, the following duties are permitted by a dental hygienist who has had additional training and passed an examination held by the Royal College of Dental Surgeons of Ontario: removal of sutures; placement, finishing and polishing of amalgam, silicate and resin restorations; placement and removal of matrix bands; placement of cavity liners in a tooth where the pulp has not been exposed; gingival retraction for impression taking; fitting and removal of orthodontic bands; separating of teeth prior to banding by dentist; cementation of temporary crowns previously fitted by a dentist; placing of temporary fillings.

U. OF M. GRADS

Combine a trip to the CDHA Convention with a "homecoming". University of Manitoba grads will have a corner of the hospitality suite for leaving messages, arranging get-togethers or for just plain visiting. A visit to the School of Dental Hygiene will be arranged for anyone interested.

This is a golden opportunity to see everyone again — don't pass it up!

*Sheryl Feller, Acting Director
University of Manitoba
School of Dental Hygiene*

B.C. HYGIENISTS TO GET MANDATORY CONTINUING EDUCATION

The College of Dental Surgeons of British Columbia has approved mandatory continuing education for relicensure of dental hygienists, effective as of January 1, 1979. The program will be comparable to that currently in effect for dentists. Basically, it will involve a minimum requirement of 75 credit hours over a three year period, such credit being assigned for a variety of learning activities including courses, study clubs, publications, etc.

ENTRIES INVITED FOR 1978 COMMUNITY PREVENTIVE DENTISTRY AWARD

The American Dental Association announces that entries now are being accepted for the third annual ADA Community Preventive Dentistry Award program.

The program, funded by the Johnson & Johnson Company, recognizes and rewards those who have created and implemented significant community preventive dentistry projects. A \$2000 award will be presented to the winner; \$300 awards may be granted for other meritorious entries.

Eligibility is not limited to dental personnel. Any individual or organization responsible for creating and implementing a community program concerned with some aspect of preventive dentistry may enter. Appropriate community activities include school programs, programs for such special population groups as the elderly or handicapped, media public information programs and private practitioners' community education programs. Preventive dentistry includes oral hygiene instruction, plaque control, uses of fluorides and sealants, relevant patient motivation and nutrition education.

Entry applications and information brochures are available from the Council on Dental Health and Health Planning, American Dental Association, 211 East Chicago Avenue, Chicago, Illinois 60611. Entries must be submitted through a state (provincial) or local dental society, dental school or dental director and must be postmarked by August 15, 1978.

7th International Symposium on Dental Hygiene July 25 - 28, 1979 Vancouver, B.C., Canada

An invitation to attend

LIFE LONG LEARNING

- Learn about professional affairs internationally
- Learn about current concepts in dental hygiene practice
- Learn about effective interpersonal communication
- Learn about some alternatives to traditional dental hygiene practice

Plan now to participate in the accumulation of knowledge. Additional information regarding the scientific program, special activities, registration and accommodation will be forthcoming.

RESOURCES AVAILABLE FROM HEALTH AND WELFARE CANADA

Dental Health, An Instructional Guide/La santé dentaire — guide pédagogique

Dental Health, An Instructional Guide, K-12, was published in March 1978 by the Department of National Health and Welfare. This guide is intended primarily for teachers from kindergarten to grade 12 and is divided into four main sections: K-3, 4-6, 7-9 and 10-12. Each section is preceded by a brief description of the general and dental development at that stage. The text is divided into three columns from left to right: objectives, content and suggested learning activities. The ten appendices explain in more detail such topics as water fluoridation, Canada's Food Guide, orthodontics and tooth injuries. The 28 illustrations are in black and white in this initial evaluation edition, and since they were intended to be in color, some of the effect is lost in their reproduction. However, colored illustrations are intended for the second revised edition.

The Guide is book-bound but eventually it will be in loose-leaf format which is easier to lay flat. There are 23 pages of resource publications, films, national and international agencies identified. The resource addresses are reasonably up to date but the publications listed might not be since the resource section was prepared by a non-dental person three or more years ago.

The teaching guide was prepared in co-operation with the provincial governments. The preliminary drafts were prepared by health educators with separate writers for both the French and English versions which consequently are quite different in content and format although generally similar in sections and philosophy.

Ten thousand copies, seven thousand English and three thousand French, will be distributed in the next few months to the provinces, mainly to teachers and to individuals involved in teaching dental health in schools. An evaluation questionnaire is included and the user is requested to complete and return it after the Guide has been tested.

Copies of the Guide are available from the Health Consultants Directorate, Health Programs Branch, Department of National Health and Welfare,

Ottawa, Ontario K1A 1B4. However, one *must* actively be involved in teaching dental health in the elementary or secondary schools to obtain a copy. Educators in dental auxiliary educational programs should identify their roles in the public schools. If you wait, in a few months, you will likely get a copy of the guide through the schools or health unit. The role of the dental hygienist as an informed resource person to teachers is invaluable.

The Guide has been six years in preparation and there have been many delays in production due in principal to Branch reorganization and budgetary problems. However, the Guide is out at last and at least it is the first major guide on dental health for teachers in Canada. It is a sequel to the Dental Health Manual for parents and teachers which was published and distributed by Health and Welfare for many years. Constructive criticism and suggestions will help to improve the second edition scheduled for as early as two years hence.

Dental Health Posters

One dental health poster has been reprinted in March 1978 and several more are being initiated with the artwork completed. Printing of these new posters and reprinting still suitable old posters will take place as funds become available. Health and Welfare will once more be a source of dental health promotional materials.

Canada Health Manpower Inventory/Répertoire de la main-d'oeuvre sanitaire au Canada, 1976

This inventory, published annually, includes a section on dental hygienists. It identifies in tabular form the number of licensed dental hygienists by province for 1968-75, the population per licensed dental hygienist, and the number of graduates of dental hygiene programs. Dental assistants and dentists are also included. The inventory is available from the Health Economics and Statistics Division, Health Programs Branch, Department of Health and Welfare, Ottawa, Ontario K1A 1B4.

Sharon B. French, R.D.H., M.S.
Ottawa, Ontario

SELF-ASSESSMENT TEST ✓

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

As a result of interest in the self-assessment tests published in the 1977 issues of *The Canadian Dental Hygienist*, this feature is being continued. The 1978 series is focusing on four specific areas relating to dental hygiene practice, the second of which is nutrition.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 48 for the correct answers.

A patient has decided to start on a so-called "health food" diet which includes brown sugar rather than white sugar. With respect to the effect on caries production, he should be advised that:

- white sugar is preferable to brown sugar
- brown sugar is preferable to white sugar
- brown sugar is preferable in uncooked preparations but the same as white sugar in cooked preparations
- both produce similar reactions

An oral symptom associated with iron deficiency is:

- gingivitis
- smooth, shiny, red tongue
- hypoplastic teeth
- black hairy tongue

Toxicity symptoms of vitamin A include:

- loss of appetite, dry skin and weight loss
- aging, renal damage, hair loss
- skin pigmentation, irritability
- gingival bleeding, fatigue and jaundice

The vitamin most needed for bone regeneration is:

- vitamin K
- vitamin C
- vitamin D
- vitamin B

5. Gingivitis can frequently result from a nutrient deficiency in:

- vitamin A
- riboflavin
- ascorbic acid
- phosphorus

6. Complete proteins are supplied by:

- cottage cheese, cereal, milk and beef
- cottage cheese, egg, milk and beef
- gelatin, cheese, milk and cereal
- peanut butter, egg, milk and beef

7. The best source of vitamin D is:

- fish liver oil
- whole grain cereals
- dark green and yellow vegetables
- peanuts

8. A result of protein deficiency is:

- pellegra
- beriberi
- kwashiorkor
- scurvy

9. Rickets is a result of a deficiency of:

- vitamin B
- vitamin D
- iodine
- protein

10. The vitamin measured in i.U. or International Units is:

- thiamine
- vitamin K
- vitamin C
- vitamin D

Suggested References:

- Deutsch, R.M. *The Family Guide to Better Food and Better Health*. Des Moines, Meredith Corporation, 1973. (Available as a Bantam Book at most bookstores for \$1.95.)
- Guthrie, H.A. *Introductory Nutrition*. St. Louis, Mosby, 1975.
- Nizel, A.E. *Nutrition in Preventive Dentistry: Science and Practice*. Philadelphia, Saunders, 1972.

Marjorie Dimitri, R.D.H., M.Ed.
Joan Voris, R.D.H., B.S.

THE WORK ETHIC IS NOT DEAD

No one has ever repealed the Law of Work, but it is in process of amendment. From the obscure life of organs within the body to the building of moon landing-craft, work is one of the conditions of being alive, but we need to keep up with changes in its form and significance.

Everyday work is some purposeful activity that requires the expenditure of energy with some sacrifice of leisure.

Sir William Osler, great Canadian physician and professor of medicine, whose book *The Principles and Practice of Medicine* is still a textbook after 82 years, believed "work" to be the master word in the ongoing life. It is the touchstone of progress, the measure of success, and the fount of hope. It is directly responsible, he said, for all advances in medicine and technology.

Not everyone is happy in his work. Job dissatisfaction is increasing. Workers are being infected by an uneasiness whose spread is challenging our assumptions about work and forcing us to make new definitions of jobs.

Some of the unrest and confusion is caused by the fact that we have not the compelling urgency of our forefathers. They had to work hard to survive; we have securities of this and that sort to make sure that we do not starve to death.

The late Dr. D. Ewen Cameron, internationally recognized psychiatrist who became the director of McGill University's Allan Memorial Institute in Montreal, wrote in his book *Life is for Living* (The Macmillan Co., 1948): "For half a century we have heard the most moving of lamentations from employers over the passing of the old time worker, the fellow who really loved his work, who hung around until he was satisfied that the job was done, who would think out ways to do it better. This kind of worker has not disappeared from the job; it is his kind of job that has done the disappearing."

Intelligent people, when they talk about the need for work, are not talking about returning to the twelve hour a day use of picks and shovels or wheelbarrows or horse-drawn scrapers in place of steam or diesel shovels, bulldozers and tractors.

Young and old are willing to invest their effort in work, but they are demanding a bigger pay off in satisfaction.

That workers find fault with their jobs is not a new phenomenon. What is new is the variety of their complaints and their increased determination to do something about removing the cause.

The development of a new respect for work and the promotion of a better understanding between those who perform the work and those who employ such workers is rapidly becoming one of the supreme tasks of employer statesmanship.

Some business executives have come to the conclusion that work, not workers, must change, and that leads them to the administration of strong medicine: the restructuring of jobs.

All the change that has been brought about by economic and mechanical progress cannot be looked upon as being against the workers' interest. Though the production technology has made man an appendage of tools and machines, and has weakened his journeyman's pride and autonomy, it has brought the price of automobiles, washing machines, cameras and refrigerators within his reach.

This gratification of his material desires by the mass production economy made man free to become aware of his dormant and unfulfilled psychological needs.

A Code of Values

The work ethic, the code of values that says you must work, is rooted in the Puritan way of life. The pilgrims who came to this continent in the 17th century filled their children's minds with copy-book maxims about the devil finding work for idle hands to do. They did this for the very good reason that in pioneer days hard and continuous work was necessary to keep parents and children from perishing. The urge to work was strengthened by the ambition to improve their level of living that animated the immigrants.

The work ethic goes further than this. An ethic is a body of moral principles that determines the course of a person's life. The work ethic holds that work is good in itself; that a man or a woman not only makes

a contribution to society but becomes a better person by virtue of the act of working.

There must be work done by our hands, or none of us could live; there must be work done by our brains, or the life we live will not be enjoyable. A person is participating in the process of living only when he is doing something.

A second-century author whose pen name was Koheleth said: "Whatsoever thy hand findeth to do, do it with thy might, for there is no work in the grave, whither thou goest."

All work is not of the sort at which one wears an apron or overalls. Work is done by an artist or a writer just as by a stonemason or a machinist. Mary Roberts Rinehart, author of sixty full-length novels besides short stories and plays, did a book about her craft in which she warned *Writing is Work*. Kepler's calculations of planetary motions, Newton's meditations on the law of gravitation, and Selye's revolutionary concept of stress, were work, though they caused sweat of the brain and not of the body.

One motive that stimulates people to work is the thought of a desirable end. There is no job in the world so dull that it would not present fascinating angles to someone who was interested in the outcome.

A research scientist found that the human motivators were, in ascending order, possibility of advancement, responsibility, the work itself, recognition, and sense of achievement. Well-balanced people may be satisfied with the simple joy of doing something well. A man chipping rocks may be soaked in pity because of the drudgery, while the man working beside him may be proud that he is helping to build a cathedral.

A New Environment

Machines, allied with chemistry and biology, have given, to a vastly increased population, an abundance and variety of commodities and amenities, together with a lightening of toil, such as our ancestors in their most hopeful visions could never have imagined.

As societies advanced in making and obtaining good things, the expectations of their people rose, so that now many suffer a feeling of scarcity and deprivation. Consequently, they are more demanding about the content of their jobs.

It would be perverse to maintain that the fullness of life that is within reach of most civilized people could exist without the complex mechanical paraphernalia used in industry and science. It would be equally wrong to deny that in the process of streamlining, co-ordinating, integrating and adjusting industrial work to the machine, that work has become all but clean-stripped of meaning and of psychological significance for the worker.

Jobs seem to have been carved up with an eccentric jigsaw to suit the needs of new processes. As Dr. Cameron pictured it, they are broken down according to what the machine can do; the left-over fragments

and the nursemaiding of the machine are given to the worker.

We cannot escape the law of life that what has not been produced cannot be consumed. Without machinery, productivity could not have risen to its present heights. Without this growth there would have been no marked increase in income, no marked decrease in the hours worked, and there would not be enough goods to supply the demand for them.

The change to machine production from the old craft manner of working, a change that people's minds were ill-prepared to handle, has caused stress of this and that sort. A precise, conscientious, meticulous individual is apt to break down if placed in repetitive jobs which call for work at speeds beyond his natural tempo and that employ only a limited part of his mental equipment.

The sort of union to be effected between the new jobs and workers is the problem that perplexes both management and unions. Monetary incentives will spring first to mind, but there is plenty of evidence to indicate that a full pay envelope does not settle all wants.

Someone once got the bright idea of attaching to every machine in a factory a meter that ticked up the wages of the worker in the same way as a taxi meter ticks up the fare. It was found that the workers soon lost interest in the meters; they decided it was better, safer, and more interesting to keep their minds on their jobs.

A Hidden Hunger

Workers may carry placards on which are printed demands for more pay, more leisure, and more comforts, but most of these are the surface indicators of a nagging hidden hunger. People increasingly desire jobs that satisfy creative needs as well as provide food and shelter.

The hidden hunger has to do with the need for recognition. A group of girls was studied. They reacted with increased production to every change in working conditions (temperature, lighting, seating, etc.) including those that were for the worse. What was important to them was not the improvement of conditions but the gesture of interest.

A person wants to be, to belong, and to become. He needs to feel that he is worthwhile, doing a worthwhile job. "Let my life mean something," is his request.

His ideal job would give him a purpose in life and make him part of a world-wide society of workers. He would be proud of his work; he would have a chance to develop and to show off his strongest skills and talents; his interest and abilities would be stimulated through a variety of tasks; he would be given freedom to make decisions.

Increasing a worker's decision-making authority satisfies his ego needs. When a corporation allowed its salesmen to set their own work standards and

Continued on page 38

FIRST AID TREATMENT FOR POISONING

In all cases except poisonous bites, the principle of first aid is to get the poison OUT or OFF, or to DILUTE it. Always call a PHYSICIAN, HOSPITAL, POISON CONTROL CENTER, or RESCUE UNIT PROMPTLY.

EMERGENCY PHONE NUMBERS:

- | | | | |
|------------------------------|------------------------|---------------------|------------------------|
| 1. Physician | <u>DENTAL LIBRARY</u> | 3. Nearest Hospital | <u>DENTAL LIBRARY</u> |
| | <u>124 EDWARD ST.,</u> | | <u>124 EDWARD ST.,</u> |
| 2. Poison Information Center | <u>TORONTO 2</u> | 4. Rescue Squad | <u>TORONTO 2</u> |

THE FOLLOWING ARE SAFE FIRST AID MEASURES FOR VARIOUS TYPES OF POISONING.

1. SWALLOWED POISONS — THIS IS AN EMERGENCY — ANY NON-FOOD SUBSTANCE IS A POTENTIAL POISON

- A. Call physician, hospital, poison control center, or rescue unit promptly.
- B. Dilute poison by giving one glassful of water.
- C. Make patient vomit if so directed, BUT NOT IF:
 - patient is unconscious or having fits.
 - swallowed poison was a strong corrosive (such as lye, strong acid or drain cleaner).
 - swallowed poison contained kerosene, gasoline or other petroleum distillates (unless containing a dangerous pesticide as well, which must be removed).
- D. DIRECTIONS FOR MAKING A PATIENT VOMIT:
 - Give one tablespoonful ($\frac{1}{2}$ ounce) of **syrup of ipecac** for a child one year of age or older, plus at least one cup of water. If no vomiting occurs in 20 minutes, this dose may be repeated **once only**.
 - Do not give salt water.
 - Do not waste time waiting for vomiting, but transport patient promptly to a medical facility. Bring package or container with intact label.

2. FUMES OR GASES (for example: fuel gases, auto exhaust, dense smoke from fires or fumes for poisonous chemicals).

- A. Get victim into fresh clean air.
- B. Loosen clothing.
- C. If victim is not breathing, start artificial respiration promptly. Do not stop until patient is breathing well, or help arrives.

- B. Remove contact lenses if worn; never permit eye to be rubbed.
- C. Call physician, hospital, poison control center, or rescue unit, and transport victim to a medical facility promptly.

4. SKIN (acids, lye, other caustics, pesticides, etc.)

- A. Wash off skin immediately with a large amount of water; use soap if available.
- B. Remove any contaminated clothing.
- C. Call physician, hospital, poison control center, or rescue unit, and transport victim to a medical facility if necessary.

5. POISONOUS BITES

A. SNAKES

1. Don't let victim walk; keep him as quiet as possible.
2. Do not give alcohol. Do not pack extremity in ice.
3. Call physician, hospital, poison control center, or rescue unit, and transport victim promptly to a medical facility.

Enroute, or while awaiting transportation

4. Apply suction to bite wound with mouth or suction cup.
5. If victim stops breathing use artificial respiration.

B. INSECTS (Spiders, scorpions, or unusual reaction to other stinging insects such as bees, wasps, hornets, etc.)

1. Remove stinger with a scraping motion to reduce injection or more toxin.
2. Do not let victim walk or exercise.
3. Place any available cold substance on bite area to relieve pain.
4. If victim stops breathing, use artificial respiration.
5. Call physician, hospital, poison control center, or rescue unit, and transport victim promptly to a medical facility.
(Persons with known unusual reactions to insect stings should carry emergency treatment kits and an emergency identity card.)

C. ANIMAL BITES

Bat, skunk, and fox bites, and other unprovoked animal bites, may be from a rabid animal. Call physician or medical facility; wash wound gently but thoroughly with soap and water.

D. POISONOUS MARINE ANIMALS

Apply any cold substance to relieve pain. (For "sting ray", heat is better.)
Call physician or medical facility if severe reaction.

quotas their sales increased 116 per cent over groups not given this freedom.

Opportunity for self-expression is desired. Work of any kind, manual or brain, can be made the intimate expression of oneself. Without the opportunity to live up to his fullest possibilities a worker shrinks and dwindles. He loses his dignity as an individual.

Satisfying The Hunger

While keeping in mind the necessary connection between work and reward, there are some lines of action that may be taken to satisfy the worker's hidden hunger.

Job rotation means that the worker moves from one task to a related task within his group. Job enlargement has the worker assume several related tasks. Job enrichment makes use of more of the employee's capabilities and allows him to accept accountability for arranging his job. It expands the worker's personality by adding the managerial functions of planning and controlling to the actual doing of the job.

Making a wheelbarrow can be a satisfying job, but not if your part of the job consists only in inspecting the ball-bearings. To make a whole piece of pottery with your own hands is to live again through a heart-warming triumph of early mankind: you become a more or less conscious creator, a person who dominates intractable elements and resistant forces.

To make up natural units of work means to put the components of a job into a group so as to form a single responsibility.

Professor Frederick Herzberg made interesting discoveries about worker morale in a study in 1955. One major firm that drew upon his research changed the jobs of 120 girls, broadening their responsibility so that they could research, compose and sign letters without having them checked by a supervisor. The result was a drop in labour turnover of 27 per cent; 24 clerks did the work of 46; and \$558,000 was saved in labour costs in eighteen months.

Democratic Leadership

Few advanced managers need to be convinced of the need for job enrichment: their quest is for ways in which to put the idea into effect. Some managers have found the secret: they make every worker a boss of something, and so allow him to feel a personal glow of pride in every achievement.

A supervisor can provide the conditions that stir the employee's desire to achieve. He can remove the road blocks preventing individuals from gaining satisfaction on the job. This does not mean that he should be permissive or lax or that he should abdicate his authority. He should develop in himself a democratic leadership style that encourages the employees to participate in planning and organizing their work. When this is properly done, the workers reach their personal goals in the process of meeting the firm's objectives.

Enlightened managers are increasingly aware of the inevitability of democracy as the pattern for a healthy society and of the importance of their role in supporting it. Under it, first-line supervisors become more than mechanical men carrying out executives' orders. Their own jobs are enriched, and they become more "resource persons and co-ordinators" than merely overseers.

Youth Has Its Say

Management has to work today with a more mobile and a better educated work force than was ever before available. Young people entering employment are likely to be more independent than were their elders, more accustomed to comforts, less respectful of codes of dress, speech and personal appearance, and more forthright in presenting their opinions.

They not only want to know what is expected of them, and what standards they must meet, but to have a hand in setting those standards. An essay in *Time* warned that some of them may be too educated, too expectant, and too anti-authoritarian for many of the jobs that the present economy offers them.

The advent of these young people to the work force is a fact of life to be reckoned with. They want significant jobs from the very beginning of their careers. They have high expectations for job satisfaction. Their fathers, with scars of the great depression still giving them twinges of pain, value job security very highly, but for the young there has to be more to a job than assurance that they will eat regularly.

During the first half of the century it was not uncommon for municipalities seeking to attract factories to advertise "abundance of cheap labour". They were admitting the fact that their men and women had not been educated beyond the doing of rough and routine tasks. Today, everyone is educated, not only in school and university but by newspapers, magazines, books, television and radio. Courses in all kinds of crafts and arts are available to any adult people who wish to employ their evenings in personal betterment.

The challenge facing employers is to work toward making the jobs suitable to the requirements of this new pattern.

The Worker's Responsibility

Not all the responsibility rests upon management. Every worker has obligations to himself and to his employer.

Work is an individual thing, even if one does it in company with a gang or a group or on a production line. It is a person's own, to do well or ill, to improve or debase.

A progressive worker is miles apart from the person who depends upon luck or a union or his personal

winning ways to get him what he wants out of life. A good apple-polisher is not always a good grower of apple trees.

There are some basic truths that should be known to all workers and prospective workers, even though at times they seem to be obscured by passing events.

You should know what your job requires of you and where you stand in it. You have to conform to the rhythm of the plant or office: if you are a member of a rowing crew you cannot show rugged individuality in the way you dip your oar even if you are convinced that your way will push the shell along faster. You are entitled to hold your job only so long as you fill your position efficiently.

It is worthwhile to use all your equipment and to develop new skills, and thus make work exciting and absorbing. Everyone should remain in a state of growth and interest. Sir William Van Horne, who progressed from railway telegraph operator to push through the Canadian Pacific Railway to completion and to end his working life as president of the board of directors, said "What interests a man cannot be called work."

If your interest seems to be dwindling, do a little self-analysis. Have you kept up so as to remain capable of handling the job efficiently? Is your education adequate to enable you to cope with new and complex situations? Does your personality enable you to work smoothly with other people? Are you satisfied that the job you are doing is useful to society?

In addition to the care lavished on raising the standard of living we need a movement to raise the standard of thinking. No one will deny that some jobs are more interesting than others, but it is also true that one mind is more interested and thinks on a higher level than another.

The animal part of man's nature prompts him to avoid difficulties, to follow the lines of least resistance, to be satisfied with existing; but every mature human being feels the need to stretch his mind, to be intellectually aware, to replace the brute instincts with responsible action.

On Being A Craftsman

A craftsman is one who is skilled in his job. All work, on however lowly a plane, can be pleasurable if skill is used in its performance. Even in nailing two boards together one may take pride in hitting the nail on the head.

Respect for quality performance is the chief attribute of the craftsman. His respect for his job becomes self-respect and contributes to the dignity of his life.

Taking pains with a job is somewhat akin to genius in its effects. President Abraham Lincoln was invited to "make a few appropriate remarks" at the dedication of the Gettysburg National Cemetery. In typical Lincoln effort for excellence he used care and work in his preparation, although his address contained

only 265 words. Instead of a routine and formal statement he gave the world something very beautiful.

Conscientious completeness turns out a product that gives the worker satisfaction and pride. A craftsman in any line should bear in mind the doctor whose prayer was that he might never become slovenly in his work or so disinterested as to make a habit of prescribing "the mixture as before".

To contend that the element of drudgery can be wholly eliminated from work would be ridiculous. But it can be ameliorated. Work is what we make it: it can be worthy and satisfying whether it be putting nuts on bolts, building a house, managing an enterprise, painting a portrait, conducting research, or rendering professional service.

A person can put the stamp of his own spirit upon his work so that it becomes uniquely his. Fellow street-sweepers were discussing one of their number after his death. One man said: "What impressed me was his interest in doing a good job; look at the way he took special pains to sweep clean around lamp posts. You could always tell a lamp post that Charlie had swept around."

Analyze your successes, however small, so that you can discover or rediscover your skills and satisfactions. The person who is dissatisfied with his job but neglects to learn the possibilities that life holds out to him through work, or who is slothful about doing something to improve his position in life, is like a man who is trying to score a goal in a game he dislikes.

When Opportunity Knocks

When opportunity for advancement or improvement in your job knocks at your door she is usually wearing overalls. The pursuit of happiness means work; freedom means being able to work for things you want; independence means standing on your own feet free from dependence on the bounty of others; self-respect is the result of working for what you get.

Man has to work because work is an economic necessity (unless he is content to live on the dole); because it is a social obligation (unless he is content to be graded with the beasts), and because it is a basic human right (if he wishes to gain a sense of self-fulfilment).

The value of work is a personal thing. What we do may matter little in the history of the world, but it matters very much to ourselves that we should have some work to do. Otherwise, much of life will pass us by.

Nowhere in all the world can we find a more impressive monument to hard work coupled with vision, thrift and courage, than the civilization which flourishes in Canada.

(Reprinted from the Royal Bank of Canada Monthly Letter, Vol. 55, No. 9.)

THE DENTAL HYGIENE DATABANK:

Results of the 1976 Survey of Canadian Dental Hygienists

PATRICIA M. JOHNSON, R.D.H.

Mrs. Johnson is the C.D.H.A. Representative to the Dental Hygiene Databank and has been involved with its establishment.

- How many dental hygienists are there in Canada and how many of these are working? . . . Part time? . . . Full time?
- What functions are performed by the average hygienist?
- How does the utilization of hygienists compare from province to province?
- What areas of Canada have the highest and lowest dentist:hygienist ratio?
- What regions have the best employment possibilities?
- How many hygienists are employed in post secondary educational institutions and what do they do?
- Is it true that few married hygienists are still working?
- What is the distribution of hygienists in Canada — by age, sex, education, marital status, etc.?
- How are dental hygienists employed — type of employer? More than one employer?

Answers to questions such as the above have not been readily available in Canada to agencies responsible for planning health care delivery systems, future dental auxiliary education programs, or the dental hygiene profession itself. With the increased number of dental hygiene programs in Ontario and Quebec, and the resultant increase in numbers of dental hygienists

available for work, it is essential that accurate statistics be maintained to ensure maximum deployment and employment of dental hygienists. Regions which have a shortage of dental hygienists need to be identified. In all areas, including those where the dental hygienist:population ratio is near optimum, the effective utilization of the hygienist needs to be examined to ensure that this auxiliary achieves his/her full potential. The need for a mechanism to collect and distribute information on specific characteristics of dental hygienists and for a means to disseminate such information has been evident for some time. This need has been met by the development of a "data-bank" for dental hygiene as part of a national data system.

The Dental Hygiene Databank is now functioning as a part of the National Health Manpower Databank for Canada. This national databank was established as a series of computer tape files in a centrally based data system providing current information on health occupations in Canada. Information including distribution of personnel and selected socio-economic data such as sex, date of birth, marital status, type of employer, geographic location, etc., can be produced for studies such as projections of the future need for a supply of an occupational group and identification of under-served areas. In view of the tremendous growth of manpower, material and facilities that is occurring in the health care sector, dentistry included, such a databank helps to ensure better research and planning for health manpower and hence,

the most effective use of our tax dollar. Although many health disciplines are presently surveyed on a regular basis with the resultant data available through the Databank, dental hygiene is the only dentally-related occupation included at this time. It is hoped that information on other groups in the dental field will be available in the near future in order to ensure co-ordinated planning.

Background

In 1973 the Canadian Dental Hygienists' Association agreed to co-operate with Statistics Canada and Health and Welfare Canada to develop and conduct an annual survey of Canadian dental hygienists. The objectives of this survey are to provide statistical data on the socio-economic and demographic characteristics of dental hygienists qualified to practise and resident in Canada, and to disseminate information to manpower planning groups and other users as a source of data for analysis and special studies. The Canadian Dental Hygienists' Association is involved with the maintenance of a current mailing list for dental hygienists in the provinces, the Yukon and the Northwest Territories, a review of the survey questionnaire form, and an analysis of the developing profile of dental hygiene in Canada as provided by the survey data.

The first survey was conducted in 1975 but the data from this initial survey will remain unpublished. The results of the 1976 survey have been published by Statistics Canada in the form of the report, *Health Manpower: Dental Hygienists 1976*.^{*} Data from the 1977 and all future surveys will be published as part of the *Health Manpower Inventory*. Generally, all data collected on the questionnaire are available to those wishing more detailed information on particular groupings. However, it should be noted that information which would reveal the situation or identity of individuals must be suppressed.

Scope

The 1976 survey data represent the commencement of the Dental Hygiene Databank as a source of national and regional information on this profession. For this survey, data were collected by questionnaires mailed to all provincially licensed dental hygienists and to the members of the Canadian Dental Hygienists' Association. Follow-ups were sent to non-respondents at approximately four and eight weeks after the initial mailing. After hygienists become qualified to practise, they are added to the survey population. The mailing list is kept current by means of name and address changes provided by the C.D.H.A. Further changes are provided by the respondents themselves on their questionnaires. Individuals are removed from

the survey when a valid address is no longer available or upon retirement after reaching the age of 65, notice of death or emigration from Canada.

Response

Out of a survey population of 1,684 in March 1976, a total of 1,498 documents were completed and returned for a response rate of 89%. The balance comprised 110 survey non-responses and 76 which were returned by the Post Office due to address changes. The 186 non-responses were reflected in the data by randomly assigning a weight of "2" among the responses in a particular province, at a frequency equal to the number of responses in that same province. It is interesting to note that the 1965 Dental Hygiene Survey was mailed to 300 of the approximately 307 dental hygienists registered in Canada at that time. The response rate was 62%. Just eleven years later, the dental hygiene survey population had increased from 308 to 1,684. Equally noteworthy is the fact that the response rate improved to 89% which is exceptionally high for any survey. Table I indicates the distribution of respondents and non-respondents by their province of residence.

Characteristics of Dental Hygienists

The following information is based on the particular situation of each respondent as of April 1, 1976. Of the 1,684 dental hygienists registered to practise in Canada, 1,646 were female and 1,269 (77%) of these women were employed in dental hygiene. Three hundred and eighteen (19%) women were not employed, with the difference in the two groups being either employed in another occupation or their employment status was not indicated. Of the total number of hygienists, 319 (19%) were not working.

Of the total number of dental hygienists surveyed, 569 (34%) are under 25 years of age, 1,492 (89%) are under 35 years of age and 192 (11%) are over 35 years of age. Thirty-six (2%) did not state their age. Of the hygienists over 35 years old, 106 (68%) are employed in dental hygiene and 76 (2%) so employed are female. While these figures indicate that the characteristic of youthfulness still describes the majority of dental hygienists, it is evident that a good number continue to remain active in the work force as they mature.

All but 30 of the single respondents and four of the respondents indicating "other" marital status were employed April 1, 1976. One thousand and seventy-four (64%) of the hygienists are married, with 66% of the male hygienists and 64% of the female hygienists indicating such a status. Of the 1,074 married hygienists, 756 (70%) are employed in dental hygiene. Earlier surveys (see Ontario Dental Hygienists' Survey, 1974) had suggested that the percentage of hygienists employed declined after 25 years of age for all respondents, and the decline was much sharper in the case of married respondents. While the Databank figures substantiate this decline, notably during the child-rearing years, the data indicated a corres-

^{*}Health Manpower: Dental Hygienists, 1976 and all other Statistics Canada publications can be ordered by mail from Publications Distribution, Statistics Canada, Ottawa, K1A 0T6 or may be purchased from authorized agents and other community bookstores.

ponding increase in employment at approximately 40 years of age. The following figures demonstrate this trend.

	Single		Married	
	Employed	Employed in D.H.	Employed	Employed in D.H.
Under 25 yrs.	318 (94%)	311 (92%)	209 (95%)	201 (92%)
25 - 29 yrs.	111 (94%)	109 (92%)	302 (74%)	294 (72%)
30 - 34 yrs.	30 (88%)	29 (85%)	185 (61%)	170 (56%)
35 - 39 yrs.	5 (100%)	5 (100%)	34 (62%)	31 (56%)
40 - 44 yrs.	2 (67%)	2 (67%)	20 (61%)	20 (61%)
45 - 49 yrs.	1 (100%)	1 (100%)	13 (68%)	13 (68%)
50 yrs. and Over	1 (100%)	1 (100%)	13 (76%)	13 (76%)

Basic Dental Hygiene Education

Of the 1,684 hygienists surveyed in 1976, 1,564 (93%) have received a diploma or certificate as their basic hygiene education. A further 53 have associate degrees in dental hygiene. Eight hygienists indicated their basic educational qualifications in dental hygiene are other than the above. This group would include those who received their education in the Armed Forces.

Of the 1,564 diploma/certificate hygienists, 1,210 (77%) are employed in dental hygiene, 44 (3%) are employed in other occupations, 301 (19%) are not

employed, and 9 (0.5%) did not state their employment status. Of the 100 hygienists who indicated educational qualifications other than a diploma or certificate, 82% were employed in dental hygiene, four were employed in other occupations and fourteen were not employed as of April 1, 1976. The survey indicated that 66% of the hygienists who had basic hygiene education other than a diploma are less than 30 years of age. This compares closely to those hygienists who have a diploma/certificate in dental hygiene — 67% are less than 30 years of age.

The Databank can also provide information on dental hygienists according to their location of graduation and the province in which they were working at the time of the survey. There were 1,306 hygienists employed in dental hygiene in Canada on April 1, 1976. Of this number, 124 received their dental hygiene education in Nova Scotia, 131 in Quebec, 491 in Ontario, 136 in Manitoba, 204 in Alberta, 91 in British Columbia and 129 outside of Canada. Specific provincial data is also available. For example, Quebec had 166 hygienists in 1976 employed in dental hygiene. Five of these hygienists had been educated in Nova Scotia, 131 in Quebec, 10 in Ontario, 5 in Alberta and 15 outside Canada.

Full Time vs Part Time Employment

It has been said that dental hygienists work only part time. Although many occupations consider 35

Distribution of Respondents and Non-respondents by Province of Residence, 1976

TABLE I

Répartition des répondants et non-répondants par province de résidence, 1976

Province of residence ¹ Province de résidence ¹	Total survey population Population total d'enquête	Respondents Répondants	Non-respondents – Non-répondants		
			Total	Survey non-response Non-réponse à l'enquête	Invalid address Adresse non-valable
Canada	1,684	1,498	186	110	76
Newfoundland – Terre-Neuve	16	15	1	1	–
Prince Edward Island – Île-du-Prince-Édouard . .	18	16	2	2	–
Nova Scotia – Nouvelle-Écosse	94	80	14	9	5
New Brunswick – Nouveau-Brunswick	21	19	2	1	1
Québec	190	167	23	11	12
Ontario	656	587	69	41	28
Manitoba	121	102	19	5	14
Saskatchewan	47	42	5	1	4
Alberta	232	208	24	13	11
British Columbia – Colombie-Britannique	286	260	26	26	–
Yukon and Northwest Territories – Yukon et Territoires du Nord-Ouest	3	2	1	–	1

¹ For those non-respondents which were due to invalid addresses, the province of residence is their last known province of residence. – Pour ceux dont la non-réponse était due à une adresse non-valable, la province de résidence indiquée est la dernière connue.

hours or more worked per week to be full time (5 full days), a great many dental practices in Canada work 4-4½ days a week. This report will consider 30 or more hours a week to be full time employment. Although the data indicates many hygienists (543) work part time for two or more dentists, 861 or 66% of those employed in dental hygiene work the equivalent of a full dental week. From this information it is evident that most hygienists work full time although they may have to work at two or more positions in order to be fully employed. An example of specific provincial data which is now available again supports the statement that most hygienists work full time.

The Practice of Dental Hygiene

The survey was designed to obtain information which could be used to develop a profile of the practice of an average dental hygienist and to answer questions on how effectively a hygienist is utilized in various employment situations.

Figure 1 shows the proportioning of a dental hygienist's time among the areas of responsibility undertaken by type of principal employer, that is, in the particular employment situation where most working hours per week are spent. Data is also available to indicate whether hygienists who are working for their principal employers part time devote approximately the same amount of time to each area of responsibility as do hygienists who are employed more hours per week for the same type of employer. The figures indicate that as the hours/week increase in a private practice situation, the amount of time devoted to the

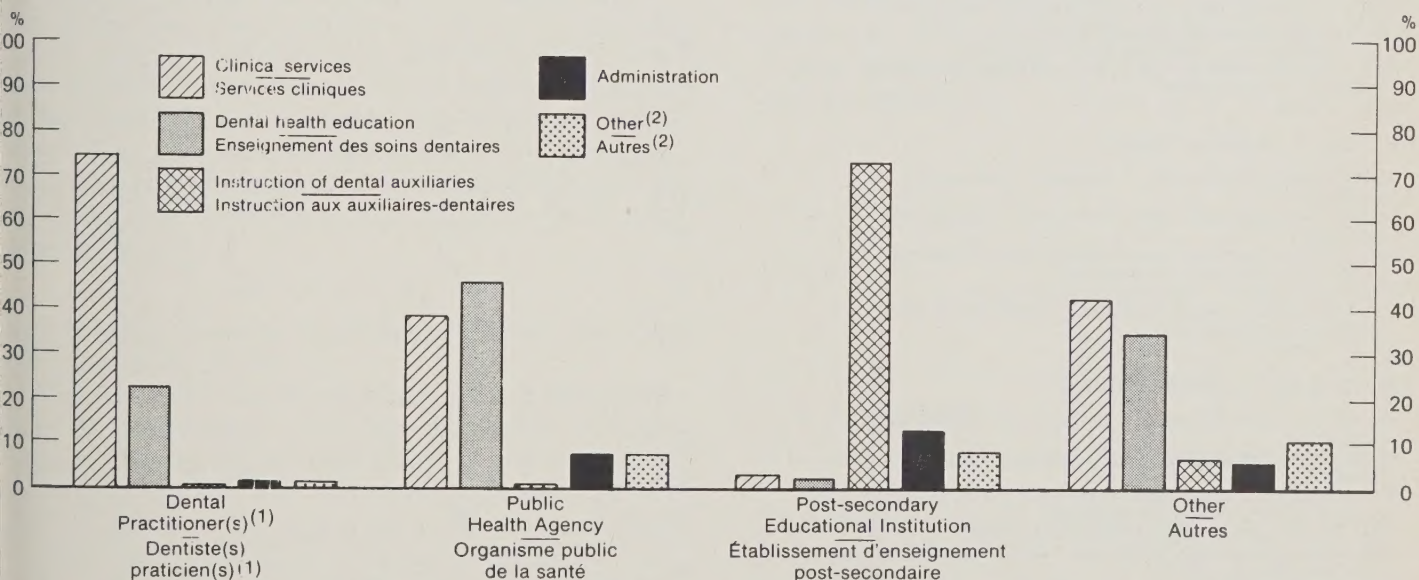
Percentage of Hygienists Employed in Dental Hygiene 30 or More Hours Per Week

Newfoundland	54%
Prince Edward Island	83%
Nova Scotia	60%
New Brunswick	85%
Quebec	73%
Ontario	85%
Manitoba	75%
Saskatchewan	68%
Alberta (includes N.W.T.)	61%
British Columbia (includes Yukon)	55%

FIGURE 1

Percentage Distribution of Time Devoted, by Dental Hygienists Employed in Dental Hygiene in Canada, to Each Area of Responsibility by Type of Principal Employer, 1976

Répartition en pourcentage des heures consacrées, par les hygiénistes dentaires employés en hygiène dentaire au Canada, à chaque domaine de responsabilité, selon le genre de principal employeur, 1976



(1) Includes: general, specialty and both general and specialty dental practitioner(s). — Comprend: dentiste(s) praticien(s) généraliste(s), spécialiste(s), et généraliste(s)-spécialiste(s).

(2) Includes: dental research, consulting services as well as other areas of responsibility which could not be included among the selections offered on the survey questionnaire. — Comprend: la recherche dentaire, les services consultatifs, de même que les domaines de responsabilité qui ne figurent pas parmi ceux mentionnés dans le questionnaire d'enquête.

TABLE II

Dental Hygienists Employed in Dental Hygiene in Canada, by Hours Usually Worked per Week, Type(s) of Employer(s) and Location of Residence, 1976

Hygiénistes dentaires employés en hygiène dentaire au Canada, selon le nombre d'heures travaillées habituellement par semaine, le(s) genre(s) d'employeur(s) et le lieu de résidence, 1976

Type(s) of employer(s) ¹ and location of residence Genre(s) d'employeur(s) ¹ et lieu de résidence	Total ²	Hours usually worked per week Heures travaillées habituellement par semaine		
		35 hours or more heures ou plus	17 - 34	1 - 16
Canada:				
General dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s)	851	366	278	192
Specialty dental practitioner(s) – Dentiste(s) praticien(s) spécialiste(s)	141	37	59	45
Both general and specialty dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s) et spécialiste(s)	78	52	21	5
Public health agency – Organisme public de la santé	195	146	27	18
Post-secondary educational institution – Établissement d'enseignement post-secondaire	138	42	25	67
Other – Autres	25	14	6	4
Atlantic region – Région de l'Atlantique:				
General dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s)	61	31	18	12
Specialty dental practitioner(s) – Dentiste(s) praticien(s) spécialiste(s)	8	3	2	3
Both general and specialty dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s) et spécialiste(s)	7	5	2	—
Public health agency – Organisme public de la santé	37	34	1	1
Post-secondary educational institution – Établissement d'enseignement post-secondaire	9	4	3	1
Other – Autres	6	3	3	—
Québec:				
General dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s)	78	35	33	10
Specialty dental practitioner(s) – Dentiste(s) praticien(s) spécialiste(s)	27	6	11	10
Both general and specialty dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s) et spécialiste(s)	14	8	6	—
Public health agency – Organisme public de la santé	33	31	1	1
Post-secondary educational institution – Établissement d'enseignement post-secondaire	26	8	9	9
Other – Autres	5	3	1	1
Ontario:				
General dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s)	365	137	116	108
Specialty dental practitioner(s) – Dentiste(s) praticien(s) spécialiste(s)	57	11	33	13
Both general and specialty dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s) et spécialiste(s)	27	17	8	2
Public health agency – Organisme public de la santé	44	27	8	9
Post-secondary educational institution – Établissement d'enseignement post-secondaire	41	11	2	26
Other – Autres	8	5	—	2
Prairie region ³ – Région des Prairies ³ :				
General dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s)	159	96	36	24
Specialty dental practitioner(s) – Dentiste(s) praticien(s) spécialiste(s)	25	10	7	8
Both general and specialty dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s) et spécialiste(s)	16	12	3	1
Public health agency – Organisme public de la santé	65	41	16	5
Post-secondary educational institution – Établissement d'enseignement post-secondaire	45	15	8	22
Other – Autres	6	3	2	1
British Columbia ⁴ – Colombie-Britannique ⁴ :				
General dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s)	188	67	75	38
Specialty dental practitioner(s) – Dentiste(s) praticien(s) spécialiste(s)	24	7	6	11
Both general and specialty dental practitioner(s) – Dentiste(s) praticien(s) généraliste(s) et spécialiste(s)	14	10	2	2
Public health agency – Organisme public de la santé	16	13	1	2
Post-secondary educational institution – Établissement d'enseignement post-secondaire	17	4	3	9
Other – Autres	—	—	—	—

¹ The total of type(s) of employer would include duplicates resulting from dental hygienists having more than one type of employer. – Le total de(s) genre(s) d'employeur comprendrait les dédoublements qui surviendraient lorsque les hygiénistes dentaires ont plus d'un genre d'employeur.

² Total includes hours not stated. – Comprend les heures de travail non précisées.

³ Includes Northwest Territories. – Comprend les Territoires du Nord-Ouest.

⁴ Includes Yukon Territory. – Comprend le Territoire du Yukon.

clinical services decreases whereas the amount of time devoted to both dental health education and to administration increases.

Further, dental hygienists employed principally by general dental practitioners spend more of their time (75.5%) on clinical services than do hygienists employed by specialty dental practitioners (71.6%) or hygienists employed equally by both general and specialty dental practitioners (69.1%). Correspondingly, the time not used for providing clinical services is reflected in an increased emphasis on dental health education: 22%, 24.4% and 26.6% respectively.

Averaging the results for the varied private practitioner-principal employers, a hygienist working 35 or more hours per week spends 71% of his/her time on clinical services, 26% on dental health education and 3% on administration and other functions. A hygienist working 17-34 hours/week for the same type of dentist spends the time on the above functions as follows: 73%, 23%, and 3% respectively. A hygienist working 1-16 hours per week spends the time on these functions 76%, 22%, and 3% respectively.

The profile of the practice of a dental hygienist who is employed by a public health agency, a post secondary educational institution or another type of employing agency is documented in Figure 1. It is interesting to note that the same relationship between fewer hours/week and increased clinical services provided occurs in public health settings as well as private dental practices. Hygienists working 35 hours per week or more devote 37% of their time to clinical services, 47% to dental health education, and 8% to administrative duties. Hygienists working 17-34 hours and 1-16 hours per week devote 45% and 49% respectively to clinical services and less to both dental health education and administrative responsibilities.

Table II indicates the distribution of dental hygienists in the work force according to hours worked per week, type(s) of employer(s), and location of residence. While these figures reflect regional distributions, statistics are available for individual provinces. The total number of hygienists has increased markedly since the date of this particular survey due to the increase in dental hygiene programs in Ontario and Quebec.

Relationship Between Dependent Children and Employment of Hygienists

This survey produced information which relates the role of parenthood (involving dependent children living at home) to the availability of the parent-hygienist for employment. The survey indicates that 321 or 25% of hygienists employed in dental hygiene in Canada have dependent children although the fact that 71 hygienists did not respond to this question may affect the accuracy of these figures. Of the above percentage, 74 (23%) work 35 hours or more per week, 94 (29%) work 17-34 hours per week and 145 (45%) work 1-16 hours per week. Comparing the

figure of 321 parents employed in dental hygiene to the 21 parents employed in another occupation and the 238 parents who are not employed, it is evident that parenthood does not preclude employment as a dental hygienist. Fifty-nine per cent of parent-hygienists are employed with 55% being employed in dental hygiene.

This same type of information is available for each of the provinces. For example, in Alberta 33 hygienists who are working in dental hygiene have dependent children. This represents 20% of the hygienists who are employed in dental hygiene. There are 40 hygienists who have dependent children and are not employed. Of the 33 parent-hygienists, 5 work 35 hours or more per week, 14 work 17-34 hours per week, and 14 work 1-16 hours per week. In British Columbia there are 51 parent-hygienists of a total of 236 hygienists who are employed in dental hygiene. Of these 51 hygienists, 6 are employed 35 or more hours per week, 20 are employed 17-34 hours and 21 are employed 1-16 hours.

Conclusion

This article has provided highlights on the information which is now available from the Dental Hygiene Databank. Comprehensive statistics detailing socio-economic and demographic characteristics of hygienists in Canada including province of residence, employment situation, sex, age, basic qualification in dental hygiene, hours worked per week, etc., can be obtained from Statistics Canada or the Canadian Dental Hygienists' Association. Since this data will be updated annually, a very complete profile of the practice of dental hygienists in Canada will develop. Improved research and planning of dental health manpower will be one of the major benefits of the Dental Hygiene Databank. It is hoped that provincial and national representatives of the dental hygiene profession will familiarize themselves with this information and will utilize it for the good of the public and the profession.

A REMINDER

The Dental Hygiene Databank questionnaires for 1978 have recently been circulated by Statistics Canada. If you have not done so already, please take the time to complete this questionnaire and return it immediately. A higher response rate means more accurate statistics. Thank you in advance for your consideration of this request.

ABSTRACTS

ENDOCARDITIS ASSOCIATED WITH USE OF AN ORAL IRRIGATION DEVICE

I have recently treated two patients for endocarditis that followed the use of an oral irrigation device (Water-Pik, Aqua Tek, Fort Collins, Colo).

The first patient was a 26-year-old man who had experienced malaise, anorexia, easy fatigability, and daily fever for two weeks. Blood cultures yielded growth of streptococci. This patient gave a history of rheumatic fever at age 18. For six months before admission, he had been using an oral irrigation device two or three times a week. Aside from routine toothbrushing, he had not undergone any other dental care for the previous 18 months. His teeth and gingiva appeared normal. The organism isolated from all blood cultures was a nonenterococcal group D streptococcus that was sensitive to penicillin G. The patient was treated for four weeks with 16 million units of penicillin G administered intravenously each day. He is well one year after discharge.

The second patient had similar symptoms plus a new heart murmur. He had no history of rheumatic fever or previous heart murmur. He had not been to the dentist for more than six months but had used an oral irrigation device daily until a week before admission. Initial blood cultures were negative, but 12 subsequent sets all yielded growth of *Neisseria mucosa*, which was sensitive to penicillin G. Intravenous injections of 18 million units were given daily for four weeks. The patient is well seven months after discharge.

It is impossible to know for sure whether these patients seeded their heart valves as a result of the use of oral irrigation devices. However, neither of the patients had evident periodontal disease or had recently seen a dentist, and both had endocarditis with organisms almost certainly of oral origin.

If patients have cardiac lesions and are predisposed to endocarditis, it seems prudent to avoid the use of such devices. The case of the patient with no previously detected heart disease suggests the advisability of bearing such devices in mind as the possible source of acute bacterial endocarditis. (Drapkin, Mark S. Division of Infectious Diseases, Newton-Wellesley Hospital, Newton Lower Falls, Mass. 02162. Endocarditis after the use of an oral irrigation device. *Ann Int Med* 87:455 Oct. 1977)

HYPERTENSION IN CHILDREN

A review of the available literature reveals that significant numbers of children have blood pressures that are higher than normal for their age group. This should persuade dentists that dental office hypertension detection programs should include patients of all ages, and not just adults.

Hypertension (and hypotension) can lead to many systemic conditions in adolescence. Despite this fact, many dentists shy away from blood pressure measurement — especially in children. Both the medical and dental professions need to educate their members to the need that the literature points out repeatedly — that children and adolescents need to be evaluated routinely so that patients found to have early hypertension can be treated and assisted to a long life free of the consequences of hypertensive disease. (Vattasingh, Busabakorn, and Kozlov, Marvin. Loyola University School of Dentistry, Chicago, Ill. 60153. The importance of early recognition of hypertensive children; a literature review. *Ill Dent J* 46: 343-346 July 1977)

GINGIVITIS IN PREGNANCY

Previous investigations, especially those of Ziskin (1933, 1943) and Hugoson (1970), have shown that estrogen and progesterone play an important part in gingival edema and increased sulcular exudate during pregnancy in humans and animals. In a group of 267 pregnant patients, we found a 36% incidence of gingivitis when plaque was uncontrolled, but in a second group of 142 pregnant women in whom plaque was controlled, the incidence was only 0.03%.

In the first group, mild to severe gingivitis was seen in 36% of the patients. However, 66% of these women had fair to poor oral hygiene; 87% of this group had varying amounts of subgingival calculus; 79% had varying amounts of supragingival calculus. In post-partum examinations, at intervals ranging from three weeks to 11 months, there was little change in the gingivitis unless the calculus had been removed and a plaque control regimen was being followed.

In the second group, there were 152 women who had been treated for gingivitis or periodontitis and who subsequently became pregnant. The incidence of gingivitis observed among these women was 0.03%.

Gingivitis in pregnancy was due mostly to the presence of soft plaque and hard calculus. If periodontal health is controlled and the patient maintains a plaque-free dentition, hormones may play only a very minor role. (Chaikin, Bernard S. 7 Whittier Place, Boston, Mass. 02114. Incidence of gingivitis in pregnancy. *Quintessence Int* 8:81-89 Oct. 1977)

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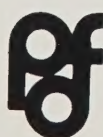
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*Beiswanger, B.B., et al.: J. Dent. Child. 45:137, 1978.



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

ALL 1978 AUTOMNE

VOLUME 12, No. 3

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are \$10 per year in Canada and \$12 per year for all other countries. Subscriptions are payable to January 1st and new subscribers should not remit until billed.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du rédacteur.

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EXECUTIVE SECRETARY APPOINTED

The Board of Directors of the Canadian Dental Hygienists' Association is pleased to announce the appointment of Mrs. Judy Dicky as Executive Secretary. In this position, she will be responsible for providing assistance to the officers and committees of the association.

Judy was born in Nottingham, England and spent several years there as a dental assistant prior to coming to Canada in 1968. Since then, she has been employed as a dental assistant in the Ottawa area. In 1975, she qualified for the CDNAA and ODNAO challenge examinations and obtained her certification. More recently, she has been involved with the administration and organization of a dental practice rather than the actual practice of dentistry.

Judy is married with two sons and her interests include local community activities, golf, tennis and being a student rider pilot. Her address is:

46 James Street
Aylmer, P.Q.
J9H 4S6

ACFD DENTAL HYGIENE SECTION MEETS IN LONDON, ONTARIO

The first ACFD Dental Hygiene Section meeting took place in London, Ontario during the 10th biennial conference of the Association of Canadian Faculties of Dentistry. Dental hygiene programs associated with faculties of dentistry, community college programs in Ontario, C.E.G.E.P.'s and Base Borden were represented during the meetings.

The Section's Executive and members are faced with the task of establishing and implementing objectives for the functioning of the Section. Presently, the section sees itself as a facilitator for the purpose of enhancing educational

standards and research in Canadian schools of dental hygiene. The Section intends to liaise with related CDHA committees and make plans for a representative from that organization to observe at future Section meetings.

There were two presentations during the meeting. First, Dr. Marjorie Jackson informed members of the B.Sc.D. program for dental hygienists at the University of Toronto. Then, Joan Voris discussed accreditation and concerns related to accreditation. As a result, the Section Executive is preparing a position statement regarding accreditation of programs to be presented at the ACFD Executive Council Meeting in the fall.

The following slate of officers was nominated and elected during the meeting:

Chairperson: Kate MacDonald (Dalhousie); Secretary/Treasurer: Linda Zambolin (Dalhousie); Chairperson-elect: Joan Conklin (University of Alberta); Member-at-large: Joan Voris (University of B.C.); Member-at-large: Shirley Lenz (University of Manitoba.)

Linda Zambolin

DENTAL HYGIENISTS AND ASSISTANTS OF THE ATLANTIC PROVINCES MEET IN CHARLOTTETOWN

The dental hygienists and dental assistants of the four Atlantic Provinces met in Charlottetown on July 2 to 5, 1978 during the annual Atlantic Provinces Dental Convention. A presentation was given by Dr. Frank Pulver on pre-natal and neo-natal factors influencing future dental health and on the role of the hygienist and assistant in pedodontic practice. Dr. Eva Powell, a psychiatrist, spoke on stress within the dental office from the perspective of both the practitioner and the patient. A table clinic given by Rosalyn Froehlich on pregnancy and dental health received an enthusiastic response from both dentists and auxiliaries.

Social functions for auxiliaries included a reception on registration night, a lobster dinner, a tour on a double-decker bus and a banquet at which CDHA President Jane Costigane spoke on professional commitment. Social events planned for the dentists were also open to hygienists and assistants.

*Frances Piercey, Secretary
P.E.I. Dental Hygienists'
Association*

FLUORIDATION — COST VERSUS SAVINGS

The cost of an adjusted fluoridation installation will vary with the volume of water to be treated:

Equipment costs for a small system should be in the neighbourhood of \$4,500 to \$6,000, and for a somewhat larger system might be \$10,000 or more.

Installation costs should be relatively minimal in most cases but, in difficult situations, could perhaps double the cost. Although most existing plants could accommodate the fluoridation equipment, in some cases small extensions would be required and these costs would have to be taken into consideration. The installation costs might be charged off in the first year or, if preferred, amortized over a number of years.

Municipal officials should be able to obtain assistance in cost estimating from the provincial authorities responsible for the environment. However in special cases, in order to ensure that a representative cost figure is obtained, it is best to contact one or more equipment manufacturers or consulting engineers.

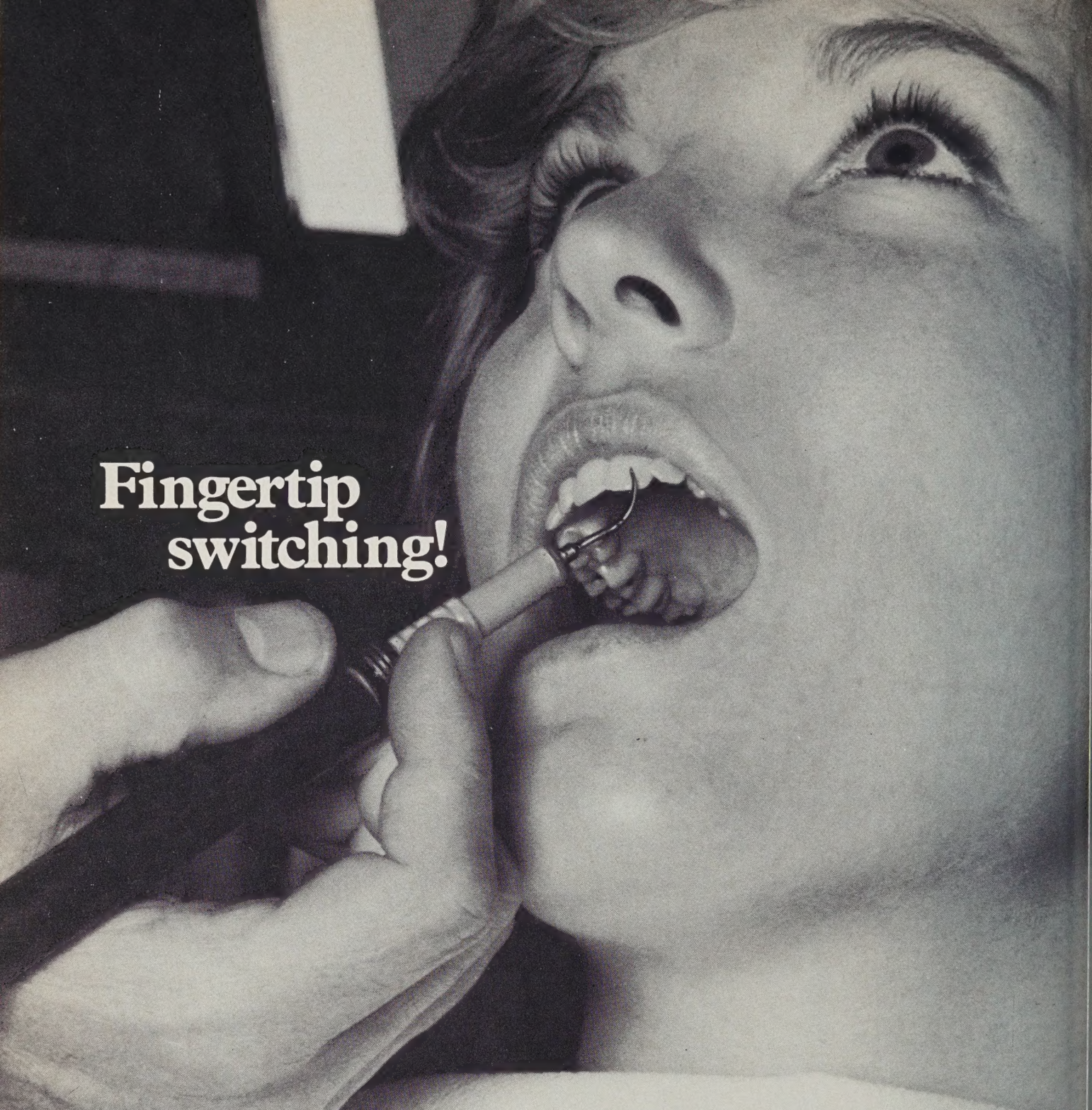
The cost of the fluoride to be added to the water, in order to bring the fluoride concentration up to the optimal level recommended for the locality, depends upon such factors as the fluoride compound used, freight charges and the number of people served. To give one example: In Ontario the 1976 reported annual costs per capita of the fluoride ranged from 4.4 to 83.3 cents. The average was 17.7 cents but the median cost was only 11.3 cents.

Operating costs were added for some systems. These brought the average to 45 cents and the median to 17.3 cents.

When compared to savings to the community, within a few years, in teeth, time and dollars, these costs are extremely small. Apart from the obvious benefits of having better teeth and preventing discomfort, there are savings of time and money to the person who thus avoids being absent from school, home or work.

One of the most impressive savings is in dollars. Tests in many parts of the continent show that, when adjusted fluoridation has been in effect for some time, the cost-per-patient of dental health care programs for children is reduced by about 50 per cent. Dentists then have more time to provide more care for more people.

*Fluoridation Officer
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UNIVERSITY OF MANITOBA APPOINTS DIRECTOR

The University of Manitoba is pleased to announce the appointment of Shirley Lenz as the Director of their School of Dental Hygiene. Shirley received her diploma in dental hygiene in 1970 and a B.S. Degree in 1971 from Marquette University, and a Master's in Public Health Degree from the University of Michigan in 1978. She has practised as a clinical dental hygienist with both a general dentist and a periodontist and was involved in dental hygiene education in Texas prior to going to graduate school.

Shirley holds several association memberships and has been involved in many professional activities in the United States including chairperson of the South Dakota Children's Dental Health Week in 1976, the Black Hills Study Club for Dental Hygienists and South Dakota's Delegate to the Annual Meeting of the American Dental Hygienists' Association. She is also an active member of the Sigma Phi Alpha (National Dental Hygiene Honorary Society).

PUBLIC SURVEY REVEALS WHY MANY DO NOT SEEK CARE

The chief reason why nearly half of all Americans (46%) do not seek regular dental care is that they "feel no need to go" to the dentist. Costs are a major factor in deterring only one in four non-regular dental patients, and fear of pain is a major factor in deterring only one in ten.

These are some of the important preliminary findings of a public opinion survey conducted early this year by the Opinion Research Corporation (ORC) for the American Dental Association (ADA) Bureau of Economic Research and Statistics (BERS). In personal interviews, ORC queried a sample of 1,949 Americans over the age of 18 concerning their utilization of dental services and their attitudes toward various dental care issues.

Although 54 per cent of respondents reported visiting a dentist within the past year, 22 per cent indicated they had not seen a dentist for three years or more. Thirty-one per cent reported a dental visit in the previous six months.

Of those respondents who did not seek dental care within the past year or longer, 63 per cent said they felt "no need to go" to a dentist; 23 per cent said "costs are too high", and 10 per cent indicated they "fear the pain involved in dental work." Older respondents were more likely than younger to refrain from seeking dental care because they did not perceive a "need" to go to the dentist.

Other significant findings of the survey relate to denture care, patterns of dental visits and methods of receiving dental care. Highlights of these findings follow:

- 15 per cent of respondents said they wear full dentures and 20 per cent said they wear partials; 39 per cent indicated a member of their immediate family wears dentures.
- 92 per cent of respondents who wear dentures or have an immediate family member wearing dentures reported they or their family member has not gone to anyone but a dentist for denture care.
- 83 per cent of respondents agreed that "a person should always go to a dentist if he wants satisfactory dentures."
- More than half the total respondents agreed that "most dentists charge too much for dentures."
- Denture wearers are less prevalent in families with higher educational and income levels.
- Three-fourths of respondents who wear dentures or have a denture wearer in the family did not know the meaning of the term "denturist."
- Of those respondents who said they know what a "denturist" is, 9 per cent indicated it was someone who is not a full-fledged dentist, and 6 per cent indicated it was a dental laboratory technician; 67 per cent indicated it was someone who makes dentures or works on dentures.
- 64 per cent of respondents agreed that it is necessary to go to the dentist to repair a broken denture.

A full report on the survey's findings will be published by BERS later this year.

FLUORIDATION AND CANCER

A report released by Health and Welfare Minister Monique Bégin concludes that the differences in cancer death rates between municipalities are not associated with water fluoridation. The report also shows no significant differences between death rates from all types of cancer within the same municipalities before and after fluoridation.

The study, entitled "Fluoridation and Cancer — An Analysis of Canadian Drinking Water Fluoridation and Cancer Mortality Data", is based on data from Statistics Canada which has been analysed for the Health Protection Branch.

Today small amounts of fluoride are added to the drinking water supplied to more than 35 per cent of the Canadian population in order to decrease the incidence of tooth decay and lower dental care costs. However some doctors and scientists have suggested that epidemiological data show the addition of fluoride to potable water in-

creases the risk of cancer. Official U.S. sources whose data have been used to support such statements claim their data have been misinterpreted.

To determine whether Canadians are exposed to a risk of cancer from the fluoride added to their drinking water, cancer mortality statistics from 79 groups of municipalities were examined closely. Comparisons of death rates from cancer were made between municipalities served with fluoridated water and those served with non-fluoridated water. In addition, comparisons were made for different time periods between 1954 and 1973. All general and malignant tumors and various specific tumor sites were included in these comparisons.

FLUORATION ET CANCER

Un rapport rendu public par le ministre de la Santé nationale et du Bien-être social, Monique Bégin, souligne que le nombre de décès dus au cancer selon les municipalités n'est lié en rien à la fluoration de l'eau. Le rapport mentionne qu'il y a peu de différence dans les taux de mortalité dus aux différentes formes de cancer décelées dans ces mêmes municipalités, avant ou après l'avènement de la fluoration.

L'étude qui a pour titre "Fluoration et cancer — une analyse de la fluoration de l'eau potable au Canada et des données sur la mortalité par cancer" a été menée par la Direction générale de la protection de la santé, à partir de données recueillies par Statistique Canada.

De nos jours, on ajoute de petites quantités de fluorure à l'eau potable bue par plus de 35 p. cent de la population canadienne pour diminuer la carie des dents et conséquemment les frais liés aux soins dentaires. Par ailleurs, certains médecins et scientifiques ont donné à entendre que les données épidémiologiques démontraient un risque accru de cancer par l'addition de fluorure à l'eau potable. Notons que les sources américaines officielles, dont les données avaient été utilisées pour étayer de telles déclarations, ont indiqué que ces données avaient été mal interprétées.

Afin de déterminer si les Canadiens encourent un risque de cancer du fait de l'addition de fluorure à l'eau potable, on a convenu d'examiner de près les statistiques sur la mortalité due au cancer provenant de 79 groupes de municipalités. Les chercheurs ont comparé les taux de mortalité due au cancer des municipalités dont l'eau est fluorée avec ceux des municipalités dont l'eau ne l'est pas. Établies à différentes périodes entre 1954 et 1973, ces comparaisons ont porté sur toutes les tumeurs générales et malignes de même que sur la localisation de ces tumeurs.

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CANADA HEALTH SURVEY BEGINS

The Canada Health Survey, a national study to obtain information on the health status and risk exposure of the Canadian population, got under way May 15 in the Atlantic provinces. It began in Quebec and Ontario on June 12, followed by the Prairie provinces and British Columbia on July 3.

Approximately 12,000 homes — 38,000 individuals — will be visited each year during the on-going survey. A selection of residents of 78 communities across the country will be involved this year. Households will be chosen at random by Statistics Canada, which is co-sponsoring the survey with the Department of National Health and Welfare.

An interviewer will visit each household and complete a general questionnaire about its members, their health and use of health care facilities. Each member of the household 15 years of age and over will be asked to complete a confidential, self-administered questionnaire focussing on the lifestyle areas of exercise, smoking, alcohol use and driving.

In one-third of the households a nurse will return with the interviewer to conduct a series of physical measures and tests. These involve measurements for blood pressure, height, weight, and skinfold thickness, taking blood samples to assess immunity and other risk factors, as well as administering the Canadian Home Fitness Test which measures heart/lung efficiency. Every member of the household aged two and over will be asked to participate in some or all of the physical measures; all measurements will be taken in the home. Results of the tests will be mailed to participants and, if they wish, to their family doctors. Individuals will be free to choose to participate or not in the survey.

Data obtained in the Canada Health Survey will complement existing information, which now comes primarily from vital statistics and health insurance records, and will be used by provincial and federal governments, professional associations and university researchers for health planning purposes. In particular, because the survey studies exposure to the risks of future disease, it will be possible to plan to reduce these risks and thus avert later problems.

The Canada Health Survey is unique in its content and design. While surveys undertaken by other countries focus on morbidity and health care delivery, the Canadian survey places more emphasis on lifestyle and positive health. It is also more extensive than other studies in the range of information collected, using interviews and physical measurements; it is more convenient than many

medical surveys because measures are obtained from participants in their homes.

The first results from the Canada Health Survey should be available in 1979, with yearly reports thereafter.

DENTAL HEALTH MONTH A SUCCESS FOR WETOKA HEALTH UNIT

Our 1978 Dental Health Month campaign proved to be very successful. We hope that some of our ideas can benefit programs in other areas; therefore, we have compiled a summary of our activities:

- Poster contests for all Grade 3 and 4 students in both city and county schools. Prizes: County winners (3 & 4); County runners-up (3 & 4); Class winners (3 & 4); Class runners-up (3 & 4). The winning posters were displayed in local grocery stores.
- Radio spot announcement contest for Grade 5 students. The top five students of each area (total of 15 students) were awarded a trip to one of three radio stations (CKRD, CKGY, and CJOI) for a tour, and

were taped for advertising throughout the month of April.

- Distribution of available posters to grocery stores and pharmacies (i.e. Splurge, Buy a New One and A.D.A. Halloween posters).
- Visits to kindergartens, day care centres and grade one classes with puppet shows and stories.
- Displays in all sub-offices advertising Dental Health Month. Also some libraries and school bulletin boards.
- Newspaper articles written by local hygienists, C.D.H.A. and Local Health Services were published. Dentally oriented columns were arranged through local home economists.
- Film from C.D.A. (Think About It) was used at the Senior High School level.
- Rubber stamp for all outgoing mail: "April is Dental Health Month".
- Distribution of various dental pamphlets in Community Health, Baby and Pre-school Clinics.

Anita Bieber, D.H.
Margo Kusiek, D.H.
Marilyn Oulette, D.H.
Sharon Pierce, D.H.

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SELF — ASSESSMENT TEST

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

As a result of interest in the self-assessment tests published in the 1977 issues of *The Canadian Dental Hygienist*, this feature is being continued. The 1978 series will focus on four specific areas relating to clinical dental hygiene practice, the third of which is oral pathology.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 72 for the correct answers.

1. When an oral examination reveals gingival enlargement which is not associated with primary inflammation, the condition is most likely to be associated with
 - a. pregnancy
 - b. leukemia
 - c. vitamin C deficiency
 - d. dilantin therapy
2. An example of a pedunculated lesion is
 - a. leukoplakia
 - b. papilloma
 - c. herpes labialis
 - d. fibroma
3. In which of the groups listed are all the conditions or diseases associated with xerostomia?
 - a. mixed tumors of the parotid and mumps
 - b. extreme blood loss, puberty, and anemia
 - c. anemia, Mikulicz's disease, and pregnancy
 - d. diabetes, menopause, and radiation to salivary glands
4. To which of the following conditions does the term "edematous" refer?
 - a. capillaries of the area are congested due to increased inflow of blood
 - b. capillaries of the area are congested due to decreased flow of blood
 - c. an abnormally large amount of fluid is present in the intercellular tissue spaces of the area
 - d. an abnormally large amount of fluid is present in the tissue cells of the area.

5. Which of the following is the most common labial lesion observed in the dental office?
 - a. squamous cell carcinoma
 - b. aphthous ulcer
 - c. herpes labialis
 - d. chancre
6. The microorganism causing sensitization and heart damage subsequent to rheumatic fever is
 - a. group A Streptococcus
 - b. Streptococcus viridans
 - c. diplococcus
 - d. group C Streptococcus
7. Gingival enlargement found in leukemia is due to
 - a. an inflammatory infiltrate made up of leukemic cells
 - b. fluid exudate causing swelling
 - c. fibroblastic proliferation
 - d. inflammation because of poor oral hygiene
8. Upon microscopic examination, a lesion covered by stratified squamous epithelium with underlying bundles of collagen fibers, occasional interspersed fibroblasts and blood vessels but few inflammatory cells is a
 - a. lipoma
 - b. fibroma
 - c. papilloma
 - d. hemangioma
9. Of the following locations, the one in which epidermoid carcinoma has the least favorable prognosis is the
 - a. lower lip
 - b. hard palate
 - c. buccal mucosa
 - d. floor of the mouth
10. The most frequent histologic type of oral cancer is
 - a. basal cell carcinoma
 - b. adenocarcinoma
 - c. squamous cell carcinoma
 - d. endothelioma

Suggested References:

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Marjorie Dimitri, R.D.H., M.Ed.
Joan Voris, R.D.H., B.S.

DIETARY FIBER

GILBERT A. LEVEILLE, Ph.D.

Dr. Leveille is with the Department of Food Science and Human Nutrition at Michigan State University.

Current interest regarding the role of dietary fiber stems largely from the observations of British investigators. In particular, Burkitt and Trowell(1,2) observed that the incidence of specific types of diseases was lower in developing countries in Africa as compared to western countries. They surmised that some component of the environment must be responsible for the differences in incidence of various diseases.

They have concluded that the difference can probably be related to the decreased consumption of dietary fiber in western countries as contrasted to the very high intakes of fiber in developing countries. It must be kept in mind that these associations are correlative and do not necessarily prove cause and effect.

Fiber is provided in our diets primarily from cereals, fruits and vegetables. There has been a marked reduction in our consumption of cereal grains and in certain fruits and vegetables. In particular, our consumption of cereals and potatoes has decreased by over 50% during the last 70 years(3). Accompanying this reduction has been an increase in the proportion of our total calories derived from animal products which contain no fiber.

Dietary fiber is not equivalent to **crude fiber**. "Crude fiber" is the material remaining after rather rigorous treatment of a food sample with acid and alkali. The residue probably reflects the cellulose and lignin content of food. "Dietary fiber", as used in this discussion, refers to the combined, undigested carbohydrates in food, and encompasses the cellulose and lignin found in crude fiber as well as hemicellulose, pectic substances, gums and other carbohydrates which are not normally digested by man.

Disease states which may be related to a low consumption of dietary fiber include diverticular disease, cancer of the colon, atherosclerosis associated with hypercholesterolemia, appendicitis, hiatal hernia, irritable bowel syndrome and hemorrhoids(1,2). The present discussion will consider the available evidence supporting the relationship of low fiber intake to the increased incidence of diverticular disease, cancer of the colon and atherosclerosis.

Diverticular disease, which is virtually endemic in western societies, involves an "outpouching" or "ballooning" of the intestinal wall. The diverticula do not present a particular problem unless they become inflamed and the condition known as diverticulitis develops. Until recently the standard dietetic management of this disease has involved a low residue diet, virtually devoid of dietary fiber. Recent work by British investigators, particularly Painter and Burkitt(4), has shown that the disease is more effectively treated by diets high in dietary fiber.

These observations, supported by other clinical investigators, are logical in that diverticular disease apparently develops as a consequence of having a relatively small, hard and dry residue in the intestine which slows movement through the intestine and increases pressure within the colon. Dietary fiber prevents the increased pressure by absorbing large amounts of water resulting in a softer stool. As a consequence, transit time (i.e., the length of time required for a meal to traverse the digestive tract) is decreased and residence time (i.e. time that a material is in the intestine) is reduced.

Hypercholesterolemia is one of the major risk factors in the development of atherosclerotic heart disease. Populations in developing countries have lower blood cholesterol levels than do individuals from developed countries. A major working hypothesis has been that the elevated blood cholesterol levels in developed countries result from high intake of fats, particularly animal fats. Animal products, including animal fat, increase in our diets at the expense of food items high in dietary fiber, namely cereals, fruits and vegetables — particularly cereal foods. Thus, the correlation between blood cholesterol levels and dietary fat intake is no better than that between blood cholesterol level and dietary fiber except that the latter is negative.

Several studies in both animals and humans have shown that components of dietary fiber can reduce circulating cholesterol levels(5-7). For example, it has been shown that the hypercholesteremic effect of a cholesterol-containing diet for rats could be overcome by the inclusion of barley, rolled oats or whole wheat bread in their diets(6). Similar studies extended to man demonstrated that the ingestion of rolled oats did indeed depress serum cholesterol levels; return to

the control diet, devoid of rolled oats, resulted in an increase in the cholesterol level(6). The lipid component of rolled oats was partially responsible for this response, but another component in defatted rolled oats, presumably fiber, also produced a significant effect(6). In both animals and man it has also been shown that the addition of pectin to diets would depress blood cholesterol levels and increase the excretion of bile acids(7).

The observed increase in bile acid excretion in animals fed pectin or other forms of dietary fiber suggests that the cholesterol depressing effect is brought about by the binding of bile acids to dietary fiber components in the intestine. Bile acids are normally secreted into the intestine in bile and serve to emulsify lipids for their digestion and absorption. The bile acids are subsequently reabsorbed and enter the bile acid pool of the body. The binding of bile acids by dietary fiber would inhibit their reabsorption and reduce the size of the bile acid pool. This presumably would increase the conversion of cholesterol to bile acids and thereby lower the circulating level of cholesterol.

This hypothesis remains to be proven, but on the basis of available evidence it is a plausible explanation. However, this would not necessarily prove that the ingestion of diets containing greater amounts of dietary fiber would reduce the incidence of cardiovascular disease.

Cancer of the colon has also been related to a low intake of dietary fiber. The available evidence demonstrates a lower incidence of cancer of the colon in countries consuming greater quantities of dietary fiber. Further, the incidence of cancer of the colon has been increasing over the past century in developed countries. The increased incidence can be correlated with the reduction in dietary fiber consumption or with the increased consumption of animal products. This does not prove that cancer of the colon is due to a reduced consumption of dietary fiber or to the greater consumption of animal fats and protein. The statistical association is merely suggestive and demands further attention.

The epidemiological evidence suggests that an environmental factor, probably diet, is related to the development of colonic cancer. For example, it has been observed that Japanese residing in Japan have a very low incidence of colonic cancer, whereas Japanese residing in Hawaii have a higher incidence; in males the incidence is virtually identical to that of white males in the U.S. This correlative evidence is impressive, but it does not prove cause and effect.

A current working hypothesis implicates some dietary residue(s) as a substrate for microorganisms in the colon. These microorganisms presumably convert the food residue to a compound(s) which, if present at a high enough concentration for an adequate period of time, can be carcinogenic. A diet high in dietary fiber could alter the composition of the microflora in the colon, resulting in an inhibition in

the production of potential carcinogens; or, a diet high in fiber might contain less of the substrate which might be converted by microbiological action to a carcinogen.

A second possibility is that dietary fiber, by decreasing the transit time of food residues through the intestine, might reduce the exposure time of the tissue to carcinogens. Thirdly, by increasing the water content in the colon, dietary fiber might function to reduce the concentration of potential carcinogens.

I have attempted to point out the current state of our knowledge with regard to the effects of dietary fiber which might relate to human health. The relationship of dietary fiber to heart disease and to cancer of the colon is not supported by experimental evidence. Hopefully, definitive evidence regarding the role of dietary fiber as it relates to these two disease entities will be forthcoming. For the moment we are faced with the question of whether, on the basis of available evidence, it is desirable to increase our consumption of dietary fiber. This is not a simple question to resolve for we have little factual information available.

One important concern of increased fiber consumption must be considered. Dietary fiber can bind other nutrients in the intestine. It is known that some indigestible components, particularly phytic acid, can bind some trace elements and in experimental animals produce a deficiency of these trace elements. This must certainly be considered as we grapple with the question of increasing the amount of dietary fiber in the American diet. The available evidence is certainly not adequate to warrant a major change in the diet of the total U.S. population; however, the need for further research is apparent.

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Visit Beautiful British Columbia

7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

JULY 25 TO 28, 1979, VANCOUVER, CANADA

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CALL FOR PAPERS

Dental hygienists interested in participating in the program are invited to submit a summary of a 15 minute presentation relating to the theme for consideration by the Organizing Committee of the Symposium. Suggested subject areas are:

- Educational experiences and opportunities beyond undergraduate education, e.g. participation in expanded duty programs, completion of advanced educational programs in areas related to dental hygiene.
- Unique dental hygiene experiences in community dentistry.

- Successful implementation of changes in clinical dental hygiene practice.

Invited and contributed papers in these and other areas will be critically reviewed and selected for presentation at scientific sessions, seminars and workshops.

DEADLINE FOR RECEIPT OF SUMMARIES IS DECEMBER 1ST, 1978. Submissions should be approximately 200 words in length and should be sent to:

Joan S. Voris, General Program Chairman
7th International Symposium on Dental Hygiene
1125 West 8th Avenue, Vancouver, B.C.
Canada V6H 3N4

PLAN NOW TO PARTICIPATE IN THE ACCUMULATION OF KNOWLEDGE AND TO ENJOY THE HOSPITALITY OF THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION.
CP AIR AND AIR CANADA HAVE BEEN NAMED THE OFFICIAL CARRIERS AND ADDITIONAL INFORMATION REGARDING THE SCIENTIFIC PROGRAM, SPECIAL ACTIVITIES, REGISTRATION AND ACCOMMODATION WILL BE FORTHCOMING.

OCTOBER IS CFDE MONTH

OCTOBER IS CFDE MONTH, the month when dentists and dental hygienists in Canada are asked to support their profession's educational needs by contributing to the Canadian Fund for Dental Education. The aim of the CFDE is embodied in its title. To elaborate, the Fund seeks to improve the quality of dental and dental auxiliary education and research throughout Canada and in following this avenue, it seeks in the longer term to improve the quality of dental care for all Canadians.

What is CFDE Doing for Dentistry in 1978?

At the Canadian Fund for Dental Education's recent annual meeting, its ten member Board of Trustees approved grants totalling \$147,000. As in previous years, teacher training fellowships for dentists and dental hygienists accounted for a substantial part of the total grant budget.

Seven dentists who received CFDE support last year, reapplied for help to complete their graduate training. Three were awarded full fellowships (\$5000) and four half fellowships (\$2500). Twelve dentists applied for CFDE fellowships for the first time. Of these, two were awarded full fellowships and five half fellowships. These awards totalled \$47,500.

Six dental hygienists applied for CFDE support. One was awarded a fellowship of \$2000 and four received fellowships of \$1000 each. The dental hygiene recipients are: Louise Chochla of Toronto, Ontario; Vivian Cozzarini of Creighton Mines, Ontario; Suzanne Sheaves of Halifax, Nova Scotia; Linda Skeleton, Islington, Ontario; and Susan Swanton of Toronto, Ontario. All recipients of CFDE fellowships make a commitment to accept a teaching position in Canada upon completion of their training or to repay the full amount of their award plus interest.

Other Major Awards

- CDA's Student Table Clinic Program and Students' Conference \$11,700
- ACFD/CDA Teaching Conference on Hospital Dentistry \$ 4,000
- 10th Biennial Conference on Dental Research and Education \$10,000
- Ontario Dental Hygienists' Association Conference \$ 2,000
- Ontario Dental Association Preventive Dentistry Conference \$ 1,500

- To Investigate New Ways of Providing Better Dental Health Care \$ 3,000
- Dental Research at the University of Toronto \$38,500
(to provide clinical benefits in the treatment of congenital malformations and mandibular fractures) — Funded by a Hospital for Sick Children Foundation Grant
- Special Teacher Training Assistance — \$ 6,700
Provided by the Lorne E. MacLachlan Endowment Fund
- Grants to Dental Schools \$10,000
- Scholarships for Undergraduate Dental Students \$ 5,000

The Canadian Fund for Dental Education has a vast stake in all aspects of dental and dental auxiliary education and research, and the CDHA sincerely appreciates their encouragement and support which have been influential in the growth and achievements of the dental hygiene profession in Canada. With increasing support, it may be hoped that it will be able to, in even more productive ways, encourage programs that will ultimately help us to achieve our common goal of better dental health for all Canadians.

An Investment in People

The CFDE has recognized that the most valuable of all capital is that invested in human beings and it is hoped that you too will show this same interest during OCTOBER IS CFDE MONTH. All contributions from dental hygienists are held in a special account for their benefit. To this fund is added interest on CDHA's trust fund, an annual contribution from the Proctor and Gamble Company and donations from the national, provincial and local dental hygiene organizations. Although October has been designated as the special month for contributions, they are most welcome at any and all times of the year. All gifts are tax deductible and are acknowledged with thanks by the CFDE. Send your contribution marked "dental hygiene" today to the:

Canadian Fund for Dental Education
Suite 205, 44 Eglinton Avenue West
Toronto, Ontario M4R 1A1

FELLOWSHIP RECIPIENTS ACKNOWLEDGE AWARDS

Over the years, I have had many opportunities to work with the Canadian Fund for Dental Education and have come to consider this organization as one of dental hygiene's best friends. The CFDE, as you are probably aware, was established in 1962 to provide financial support for dental education and research in Canada. Dental hygiene's liaison with them began in 1969 and has since continued to grow.



Dental hygiene is a growing profession, expanding into many areas beyond the diploma or certificate level. Opportunities for advanced education are available in many different areas and more are becoming increasingly available. Dental hygienists who have the desire and energy to pursue these opportunities often must do so at both a personal and financial burden.



The CFDE is involved in many areas relating to dental hygiene education, licensure and practice, one of which is the financial support of meetings such as the CDA Conference on Dental Auxiliaries and the CDHA Workshop for Clinical Dental Hygiene Educators. Both of these were "firsts" in Canada and the opportunity to meet formally on a national basis and to share information and ideas was invaluable in the development of guidelines and goals for dental auxiliary education in Canada.

The Canadian Fund for Dental Education plays an important role in assisting hygienists with the financial burden of advanced education. Through their fellowships, they have not only contributed to the education and growth of individual hygienists but to the growth of the profession of dental hygiene as well. I feel very fortunate to have been a recipient of one of these fellowships and greatly appreciate the individuals' contributions which make the fellowships possible.

*Wendy Halowski, R.D.H., B.S., M.S.
University of British Columbia*

Perhaps CFDE's largest contribution to the growth of dental hygiene in Canada however, is in the area of teacher training fellowships. Each year, the Board of Trustees gives consideration to the awarding of such fellowships to individuals who are interested in pursuing careers in dental and dental auxiliary education. Last year, I was one of the fortunate recipients of such an award and so it is with much gratitude that I am writing this message. Being a student at an American institution was a costly endeavor, especially with out-of-state tuition fees, and so the financial aspect of the award was much appreciated. More so, however, I was honored to have been selected for such an award by the organization for which I have so much respect.

With the many changes taking place in dental hygiene education, licensure and practice in Canada, one can foresee increased requests to the CFDE for financial assistance for workshops and symposiums as well as teacher training fellowships. Because the fund depends on contributions to finance such activities, I would encourage each and every one of you to lend your support — no contribution is too small and all gifts are tax deductible. The CFDE has been good to us and I am hopeful that you will be equally good to them.

*Marjorie Dimitri, R.D.H., M.Ed.
University of British Columbia*

I would like to express my appreciation to the Canadian Fund for Dental Education for the financial assistance I have received. The fellowship enabled me to complete a Master's degree in Education, and I am most grateful to CFDE for helping to make this possible.



As a dental hygiene director, I am also pleased that the CFDE has provided similar assistance to some of the Dalhousie dental hygiene faculty. In this respect, CFDE performs a most valuable function in providing schools with dental hygiene educators. This is especially significant in view of the fact that there are now many new dental hygiene programs as well as increased enrollments, or projected increases in the number of students in many of the ongoing programs.

*Kate MacDonald, R.D.H., B.S., M.Ed.
Dalhousie University*

The Canadian Fund for Dental Education has, over the years of its existence, provided very tangible support for dental hygiene education. I have reason to be personally grateful for this support, because in 1976 I was the recipient of a CFDE fellowship. This fellowship was of significant help in my pursuit of a master's degree at the University of British Columbia during the 1976/77 academic year.

I have been a supporter of CFDE for a long time, but now my feelings are even stronger and more personal, of course. CFDE is a great resource for dental hygiene education in Canada, and deserves our support.

*Margery G.E. Forgay, R.D.H., B.A., B.Ed., M.Ed.
University of Manitoba*

ACKNOWLEDGEMENT

The CFDE trustees wish to pay tribute to the following individuals who contributed to the Dental Hygiene Fund in 1977.

Les fiduciaires du FCED désirent rendre hommage aux personnes suivantes qui ont contribué au Fonds d'hygiène dentaire en 1977.

Aitken, S.M., Rosemere, Que.	Feller, D., Toronto, Ont.	Killips, C.J., Edmonton, Alta.	Qualley, S., Duncan, B.C.
Bailey, M., Regina, Sask.	Feller, S.J., Winnipeg, Man.	Kline, C., Vancouver, B.C.	Riley, C.J., Medicine Hat, Alta.
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Dennis, G.C., Regina, Sask.	Harwood, N.E., Vernon, B.C.	Munro, A.V., Halifax, N.S.	Wood, A.E., Toronto, Ont.
Dimitri, M.J., Richmond, B.C.	Hewton, B.I., Surrey, B.C.	Neilson, C.A., Vancouver, B.C.	Worobey, C.L., Winnipeg, Man.
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Duffney, S., Vancouver, B.C.	Jesin, E.F., Toronto, Ont.	Phillips, D.F., Fernie, B.C.	
	Jones, L.M.G., Thornhill, Ont.	Pinsent, J., North Vancouver, B.C.	
	Kenny, M.D., Oyen, Alta.		

PREVENTION OF BACTERIAL ENDOCARDITIS*

Bacterial endocarditis remains one of the most serious complications of cardiac disease. The morbidity and mortality remain significant despite advances in antimicrobial therapy and cardiovascular surgery. This infection occurs most often in patients with structural abnormalities of the heart or great vessels. Effective measures for prevention of this infection by physicians and dentists are highly desirable.

Dental treatment, or surgical procedures or instrumentation involving the upper respiratory tract, genitourinary tract, or lower gastrointestinal tract, may be associated with transitory bacteremia. Bacteria in the bloodstream may lodge on damaged or abnormal valves such as are found in rheumatic or congenital anatomic defects, causing bacterial endocarditis or endarteritis. However, it is not possible to predict specific patients with structural heart disease in whom this infection will occur, nor the specific causal event.

Prophylaxis is recommended in those situations most likely to be associated with bacteremia since bacterial endocarditis cannot occur without a preceding bacteremia. Certain patients (e.g., those with prosthetic heart valves) appear to be at higher risk to develop endocarditis than are others (e.g., those with mitral valve prolapse syndrome). Likewise, certain dental (e.g., extractions) and surgical (e.g., genitourinary tract surgery) procedures appear to be much more likely to initiate significant bacteremia than are others. These factors, although difficult to quantitate, have been considered in developing these recommendations.

Since there have been no controlled clinical trials, adequate data for comparing various methods for prevention of endocarditis in man are not available. However, an experimental animal model permitting consistent induction of bacterial endocarditis with

microorganisms which often cause the infection in man has allowed experimental evaluation of both prophylaxis and treatment. Data from these studies, although derived from animal rather than clinical investigations, represent the only direct information on the efficacy of prophylaxis that is presently available. This information has influenced formulation of the current recommendations. The significant morbidity and mortality associated with infective endocarditis and the paucity of conclusive clinical studies emphasize the need for continuing research into the epidemiology, pathogenesis, prevention, and therapy of infective endocarditis.

When selecting antibiotics for bacterial endocarditis prophylaxis one should consider both the variety of bacteria that is likely to enter the blood stream from any given site and those organisms most likely to cause this infection. Certain species of microorganisms cause the majority of cases of infective endocarditis, and their antimicrobial sensitivity patterns have been defined. The present recommendations are based on a review of available information about the organisms responsible for endocarditis including their *in vivo* and *in vitro* sensitivity to specific antibiotics and the pharmacokinetics of these drugs.

In general, *parenteral administration* of antibiotics provides more predictable blood levels and is preferred when practical, especially for patients thought to be at high risk. Optimal prophylaxis requires close co-operation between physicians, and between physicians and dentists.

DENTAL PROCEDURES AND UPPER RESPIRATORY TRACT SURGICAL PROCEDURES

Patients at risk to develop infective endocarditis should maintain the highest level of oral health to

reduce potential sources of bacterial seeding. Even in the absence of dental procedures, poor dental hygiene or other dental disease such as periodontal or periapical infections may induce bacteremia. Patients without natural teeth are not free from the risk of bacterial endocarditis. Ulcers caused by ill-fitting dentures should be promptly cared for since they may be a source of bacteremia.

Antibiotic prophylaxis is recommended with **all** dental procedures (including routine professional cleaning) that are likely to cause gingival bleeding. Chemoprophylaxis for dental procedures in children should be managed in a similar manner to the way in which it is handled in adults. Although not a procedure, one exception to this is the spontaneous shedding of deciduous teeth; there are no data to suggest a significant risk of bacteremia accompanying this common event.

Devices which utilize water under pressure to clean between teeth, and dental flossing may improve dental hygiene, but they also have been shown to cause bacteremia. However, bacterial endocarditis associated with the use of these devices has not been reported. Present data are insufficient to make firm recommendations with regard to their use in patients susceptible to endocarditis. However caution is advised in their use by patients with cardiac defects, especially when oral hygiene is poor.

Several studies suggest that *local gingival degerming* immediately preceding a dental procedure provides some degree of protection against bacteremia. However, use of this technique is controversial, since gingival sulcus irrigation itself could theoretically induce bacteremia. If local degerming is employed, it should be used only as an adjunct to antibiotic prophylaxis.

Since alpha hemolytic streptococci (e.g., viridans streptococci) are the organisms most commonly implicated in bacterial endocarditis following dental procedures, antibiotic prophylaxis should be specifically directed toward them. Certain procedures on the upper respiratory tract (e.g., tonsillectomy or adenoidectomy, bronchoscopy — especially with a rigid bronchoscope — and surgical procedures involving respiratory mucosa) also may cause bacteremia. Since bacteria entering the bloodstream after these procedures usually have similar antibiotic sensitivities to those recovered following dental procedures, the same regimens are recommended.

The following table contains suggested regimens for chemoprophylaxis for dental procedures, or surgical procedures and instrumentation of the upper respiratory tract. The order of listing does not imply superiority of one regimen over another although parenteral administration is favored when practical. The committee also favors the combined use of penicillin and streptomycin or the use of vancomycin in the penicillin allergic patient (regimen B) in those patients felt to be at high risk (e.g., prosthetic valves).

Prophylaxis for Dental Procedures and Surgical Procedures of the Upper Respiratory tract

	Most Congenital heart disease; ¹ rheumatic or other acquired valvular heart disease; idiopathic hypertrophic subaortic stenosis; mitral valve ⁴ prolapse syndrome with mitral insufficiency.	Prosthetic heart valves ⁵
All dental procedures that are likely to result in gingival bleeding. ^{1, 2}	Regimen A or B	Regimen B
Surgery or instrumentation of the respiratory tract. ⁶	Regimen A or B	Regimen B

¹ Does not include shedding of deciduous teeth.

² Does not include simple adjustment of orthodontic appliances.

³ E.g., ventricular septal defect, tetralogy of Fallot, aortic stenosis, pulmonic stenosis, complex cyanotic heart disease, patent ductus arteriosus or systemic to pulmonary artery shunts. Does not include uncomplicated secundum atrial septal defect.

⁴ Although cases of infective endocarditis in patients with mitral valve prolapse syndrome have been documented, the incidence appears to be relatively low and the necessity for prophylaxis in all of these patients has not yet been established.

⁵ Some patients with a prosthetic heart valve in whom a high level of oral health is being maintained may be offered oral antibiotic prophylaxis for routine dental procedures except the following: parenteral antibiotics are recommended for patients with prosthetic valves who require extensive dental procedures, especially extractions, or oral or gingival surgical procedures.

⁶ E.g., tonsillectomy, adenoidectomy, bronchoscopy, and other surgical procedures of the upper respiratory tract involving disruption of the respiratory mucosa. (See text).

Regimen A — Penicillin

1. Parenteral-oral combined:

Adults: Aqueous crystalline penicillin G (1,000,000 units intramuscularly) **mixed with Procaine Penicillin G** (600,000 units intramuscularly). Give 30 minutes to 1 hour prior to procedure and then give penicillin V (formerly called phenoxymethyl penicillin) 500 mg orally every 6 hours for 8 doses.†

Children:* Aqueous crystalline penicillin G (30,000 units/kg intramuscularly) **mixed with Procaine Penicillin G** (600,000 units intramuscularly). Timing of doses for children is the same as for adults. For children less than 60 lbs. the dose of penicillin V is 250 mg orally every 6 hours for 8 doses.†

2. Oral:‡

Adults: *Penicillin V* (2.0 gm orally 30 minutes to 1 hour prior to the procedure and then 500 mg orally every 6 hours for 8 doses.)†

Children:* *Penicillin V* (2.0 gm orally 30 minutes to 1 hour prior to procedure and then 500 mg orally every 6 hours for 8 doses.† For children less than 60 lbs. use 1.0 gm orally 30 minutes to one hour prior to the procedure and then 250 mg orally every 6 hours for 8 doses.)†

For Patients Allergic to Penicillin:

Use either *Vancomycin* (see Regimen B)

or use

Adults: *Erythromycin* (1.0 gm orally 1½-2 hours prior to the procedure and then 500 mg orally every 6 hours for 8 doses.)†

Children: *Erythromycin* (20 mg/kg orally 1½-2 hours prior to the procedure and then 10 mg/kg every 6 hours for 8 doses.)†

Regimen B — Penicillin plus Streptomycin

Adults: *Aqueous crystalline penicillin G* (1,000,000 units intramuscularly)

mixed with

Procaine penicillin G (600,000 units intramuscularly)

PLUS

Streptomycin (1 gm intramuscularly).

Give 30 minutes to 1 hour prior to the procedure; then penicillin V 500 mg orally every 6 hours for 8 doses.†

Children:* *Aqueous crystalline penicillin G* (30,000 units/kg intramuscularly)

mixed with

Procaine penicillin G (600,000 units intramuscularly)

PLUS

Streptomycin (20 mg/kg intramuscularly).

Timing of doses for children is the same as for adults. For children less than 60 lbs. the recommended oral dose of penicillin V is 250 mg every 6 hours for 8 doses.†

For Patients Allergic to Penicillin:

Adults: *Vancomycin* (1 gm intravenously over 30 minutes to 1 hour). Start initial vancomycin infusion ½ to 1 hour prior to procedure; then *erythromycin* 500 mg orally every 6 hours for 8 doses.†

Children:* *Vancomycin* (20 mg/kg intravenously over 30 minutes to 1 hour).** Timing of doses for children is the same as for adults. *Erythromycin* dose is 10 mg/kg every 6 hours for 8 doses.†

Footnotes to Regimens:

† In unusual circumstances or in the case of delayed healing, it may be prudent to provide additional doses of antibiotics even though available data suggest that bacteremia rarely persists longer than 15 minutes after the procedure. The physician or dentist may also choose to use the parenteral route of administration for all of the doses in selected situations.

* Doses for children should not exceed recommendations for adults for a single dose or for a 24-hour period.

** For vancomycin the total dose for children should not exceed 44 mg/kg/24 hours.

‡ For those patients receiving continuous oral penicillin for secondary prevention of rheumatic fever, alpha hemolytic streptococci which are relatively resistant to penicillin are occasionally found in the oral cavity. While it is likely that the doses of penicillin recommended in Regimen A are sufficient to control these organisms, the physician or dentist may choose one of the suggestions in Regimen B or may choose oral erythromycin.

OTHER INDICATIONS FOR ANTIBIOTIC PROPHYLAXIS TO PREVENT ENDOCARDITIS

In susceptible patients chemoprophylaxis to prevent endocarditis is also indicated for surgical procedures on any infected or contaminated tissues, including incision and drainage of abscesses. Antibiotic prophylaxis for the indicated dental and surgical procedures should also be given to those patients who have had a documented previous episode of infective endocarditis, even in the absence of clinically detectable heart disease.

Indwelling transvenous cardiac pacemakers appear to present a low risk of endocarditis; however dentists and physicians may choose to employ prophylactic antibiotics to cover dental and surgical procedures in these patients. The same recommendations apply to renal dialysis patients with implanted arteriovenous shunt appliances. Although no firm recommendation can be made on the basis of current information, antibiotic prophylaxis for prevention bacteremia provoked by dental and surgical procedures also deserves consideration in patients with ventriculoatrial shunts placed to relieve hydrocephalus since there are documented cases of infective endocarditis in these patients.

It is important to recognize that antibiotic doses used to prevent recurrences of acute rheumatic fever ("secondary" rheumatic fever prophylaxis) are inadequate for the prevention of bacterial endocarditis (see reference). Special attention should be paid to these patients and appropriate antibiotics should be prescribed in addition to the antibiotic they are receiving for prevention of group A beta hemolytic streptococcal infections (the addition of an aminoglycoside to appropriate doses of penicillin, or the use of erythromycin or vancomycin).

WARNING

The committee recognizes that it is not possible to make recommendations for all possible clinical

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DENTAL HYGIENE EDUCATION IN CANADA: AN OVERVIEW

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Many changes in dental hygiene education have taken place since the establishment of the first Canadian program at the University of Toronto in 1951. To this end, the following article has been prepared to update information relating to the education of dental hygienists in Canada. Included will be discussions of the following aspects of dental hygiene education: diploma programs; expanded function programs; degree programs; continuing education; and the roles of the professional organizations.

It must be remembered that in Canada, all matters relating to education and health including dentistry are provincial responsibilities. Hence, it is provincial legislation that determines the numbers, location and scope of dental hygiene educational programs, a situation which has resulted in a diversity of programs being established in a variety of settings throughout the country.

Diploma Programs

The first two year diploma program in dental hygiene was established at the University of Toronto in Ontario in 1951. During the next two decades, four other diploma level programs were established within Canadian faculties of dentistry in Nova Scotia, Manitoba, Alberta and British Columbia. In 1972, the first diploma programs in community colleges were established in Quebec and subsequently, numerous other programs have been developed and implemented in non-dental school settings in Ontario as well as Quebec. In 1973, the long established military based program of the Canadian Armed Forces applied for and received accreditation by the Canadian Dental Association's Council on Education.

At the present time, the trend in the development of the new two year diploma programs is towards a career-options system which is designed to provide mechanisms for both vertical and lateral mobility within the educational system. This trend, along with the rapid increase in numbers of dental hygiene programs and the changes in provincial legislation governing dental hygiene practice, has created many problems for individuals and institutions involved in dental hygiene education, especially in the area of accreditation. In addition, these problems have been compounded by the lack of qualified teachers for staffing these new and non-traditional programs.

Expanded Function Programs

Increased demands for dental services have resulted in alternative approaches to delivery systems, one of which is the utilization of expanded function dental auxiliaries. In Canada, the first program of this type was that conducted in 1969 by the Prince Edward Island Dental Manpower Study in which dental hygienists were trained to complete the post-tooth cutting portion of restorative procedures.⁽¹⁾ Currently, an expanded function program in restorative dentistry is part of the regular curriculum at Dalhousie University, University of Manitoba and John Abbott Community College and at UBC, it is offered as an elective course to interested students. In addition, in Ontario programs in restorative dentistry are offered to graduate dental hygienists.

The administration of local anaesthetic has now been delegated to dental hygienists in both British Columbia and Saskatchewan. The teaching of this function has been incorporated into the dental hygiene curriculum at UBC and in addition, courses are available to graduate dental hygienists through the divisions of continuing education of the faculties of dentistry in both of the provinces where it is legal.

Some of the provinces are also in the process of developing expanded function programs in other dental specialty areas. In Saskatchewan, dental hy-

gienists are allowed to perform certain periodontic procedures including curettage and minor periodontal surgery upon completion of a course approved by the Council of the College of Dental Surgeons of Saskatchewan. In British Columbia, an educational module in orthodontics for both dental hygienists and certified dental assistants has been approved by the College of Dental Surgeons of British Columbia and it is anticipated that the first program will be offered sometime this fall.

Degree Programs

In 1971, the first degree program in dental hygiene was established at the University of Montreal where French-speaking students were able to complete both a basic dental hygiene program and a second major in teaching. This three year program was developed with the intention of graduating approximately five classes to provide dental hygiene educators for the CEGEP (community college) diploma dental hygiene programs in Quebec. This program, to which no further entering students have been accepted since 1976, is presently under revision. In the future, the University of Montreal hopes to be able to offer a baccalaureate program for graduates of the CEGEP diploma programs.(2)

In 1976, the first degree program in dental hygiene for English-speaking students was established at the Faculty of Dentistry, University of Toronto. This program accepts a limited number of dental hygienists who wish to prepare themselves for academic and/or administrative positions. Basic requirements for admission into the program include a university diploma in dental hygiene or its equivalent and a minimum of one year of professional experience in dental hygiene. The curriculum is two full academic years in length leading to a Bachelor of Science in Dentistry degree.(3)

The only survey to ascertain the level of interest in degree programs in dental hygiene was that done in the fall of 1975 by the School of Dental Hygiene at the University of Manitoba. This survey of graduate dental hygienists and dental hygiene students elicited a good response and results indicated a high level of interest. Of the 747 respondents, 64.1% expressed interest in enrolling in a degree program. Among student respondents, 90.9% were interested and of graduates, 62.1% were interested. Not surprisingly, interest was related to year of graduation. Of those graduating from 1929 to 1962, 40.5% were interested. The corresponding figure for 1963 to 1970 graduates was 56.4% and for 1971 to 1975 graduates, 69.3%(4) At the present time, several faculties of dentistry are responding to the need for baccalaureate programs for dental hygienists and are developing proposals for consideration and implementation. Although such programs are being designed to reflect the specific needs of the individual provinces, it is hoped that they will be recognized on a national level.

Continuing Education

As a result of expanded roles and changing modes of dental hygiene practice, increased emphasis is now being placed on continuing education for graduate dental hygienists. Currently, the majority of courses available to dental hygienists are offered under the auspices of divisions of continuing education of faculties of dentistry and national, provincial and local dental and dental hygiene associations. However, the need for additional courses has been identified, especially clinical type ones designed to assist dental hygienists to maintain competency and increase skills. To date, British Columbia is the only province to have mandatory continuing education for relicensure of dental hygienists. This program, which will be implemented in January of 1979, will be comparable to that currently in effect for dentists. Basically, it will involve a minimum requirement of 75 credit hours over a three year period, such credit being assigned for a variety of learning activities including continuing education courses, study clubs, independent learning programs and publications.

Roles of Professional Organizations

Canadian Dental Association. The CDA's involvement in dental hygiene education is primarily through the Councils on Education and Health Care. The Council on Education is responsible for the accreditation of dental hygiene programs, survey visits for which are usually conducted once every five years upon the request of the individual institutions. Graduation from an accredited program is the basic requirement for registration in most provinces in Canada and as such, it is an important mechanism within the educational system. At the present time, the following programs have the accreditation status of full approval: Dalhousie University, University of Montreal, John Abbott Community College, Canadian Armed Forces, University of Manitoba, University of Alberta and University of British Columbia. The Council on Education is also involved with the Council on Health Care in the development of national guidelines for a career-options system for dental auxiliary education including the definition of minimum requirements for approval of such programs.

Canadian Dental Hygienists' Association. Over the years, the CDHA has been actively involved in many areas relating to dental hygiene education. In particular, they have participated in the development of the guidelines for the accreditation of an undergraduate program in dental hygiene and for a career-options system approach to dental auxiliary education. Through their Education Committee, they have prepared many position statements and briefs relating to undergraduate, graduate and continuing education for dental hygienists. In addition, CDHA members have been active participants at numerous meetings, workshops and conferences.

Canadian Fund for Dental Education. Since its establishment in 1962, the Canadian Fund for Dental Education has a commendable history of encouraging and financially supporting all aspects of dental education and research in Canada. In recent years, the CFDE trustees have also taken an active interest in the dental auxiliary professions as well. Initially, the CFDE offered scholarships to outstanding first year students in each of the nation's schools. In 1974, with the full approval of the CDHA Board of Directors, it was decided to abandon the undergraduate scholarship program in order to concentrate on teacher training fellowships. To date, twenty-nine such fellowships have been awarded to dental hygienists interested in pursuing teaching careers. In another direction, the CFDE funded the 1974 Conference on Dental Auxiliaries, a meeting which supplied the first major link in communication among members of the dental health team in Canada. More recently, the CFDE again demonstrated its interest in advancing dental hygiene education by financing the CDHA Workshop for Dental Hygiene Educators which was held in Winnipeg in June of 1976.

ACFD: Dental Hygiene Section. In June of 1977, the Executive Council and House of Delegates of the Association of Canadian Faculties of Dentistry accepted the application from the dental hygiene educators for section status. The first organizational meeting of this group was held during the 1977 annual CDHA meeting in Toronto, and dental hygiene educators again met in conjunction with the ACFD meeting in June, 1978 in London, Ontario. One of the major goals of this group will be the development and promotion of dental hygiene education and research in Canada.

Conclusion

Dental hygiene education in Canada has experienced many changes since 1951 and at the present time, there is much uncertainty and concern. However, with continued emphasis on quality as well as quantity and a strong commitment on behalf of those involved in dental hygiene education, it is hoped that dental hygienists of the future will be educationally prepared to make an even more significant contribution to dentistry and the dental health of the Canadian people.

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Continued from page 65

situations. Practitioners should exercise their clinical judgment in determining the duration and choice of antibiotic(s) when special circumstances apply. Furthermore, since endocarditis may occur despite antibiotic prophylaxis, physicians and dentists should maintain a high index of suspicion in the interpretation of any unusual clinical events following the above procedures. Early diagnosis is important to reduce complications, sequelae, and mortality.

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(Reprinted from *Circulation*, [56: 139A, 1977] ©1977 American Heart Association)

*This statement was prepared by the Committee on Rheumatic Fever and Bacterial Endocarditis of the Council on Cardiovascular Disease in the Young of the American Heart Association. The Council on Dental Therapeutics of the American Dental Association has approved this statement as it relates to dentistry.

ABSTRACTS

THUMBSUCKING

What should be done about the child who sucks his thumb? If there is no dentomaxillary deformity, nothing should be done.

Even in the presence of deformities, it would seem wise not to intervene before the child is 6 or 7 years old. For one thing, the majority of thumbsuckers abandon this behavior spontaneously between the ages of 3 and 7 years. Moreover, the deciduous teeth begin to be replaced by the adult dentition at the age of 6. An early intervention runs the risk of being ineffective or even of reinforcing the habit and leading to other problems.

After age 7, the child with a dentomaxillary deformity should be examined. In the absence of a psychological contraindication, psychotherapy should be undertaken in order to put a stop to the habit. If the child of 8 years continues thumbsucking despite psychotherapy by the psychologist or the stomatologist, the advice of a child psychiatrist should be sought to learn whether the symptom the habit represents should be disturbed or not. (Mairesse, A.M.; Coutand, A.; and Bouvet, J.M. Faculté de Médecine Pittié-Salpêtrière, 75013 Paris, France. *Psychologie et orthopédie dento-faciale* a propos de quelques résultats. Summary in Eng. *Rev Stomatol* 78: 259-268, 1977).

USE OF ICE PACKS FOR HERPES LABIALIS

Encouraging results have been obtained from ice cube treatment of herpes labialis. The application of ice cubes must be continuous for 90 to 120 minutes, and it must be started within 24 hours of onset.

Prodromal symptoms or pain, or both, cease immediately. Lip sensation returns minutes after therapy is discontinued, but the symptoms are no longer present. By the following day, vesicles are reabsorbed without breaking or becoming purulent; healing is complete within one or two days.

All 14 patients treated this way were cured. The lesions were localized without secondary manifestations. Therapy did not damage surrounding tissue. The treatment had little or no effect in four patients who were treated 36 hours or more after onset. Successful treatment does not prevent recurrence.

Cryotherapy with ice cubes lends itself to immediate self-treatment by the patient, being in effect a home remedy. Patients can be instructed in how to recognize the prodrome, and how to apply treatment. A minor practical problem was that some first-time or skeptical patients wanted to discontinue treatment before 90 minutes because they were bored. Future studies will determine whether the treatment time can be reduced. (Danziger, Sanford. Hebrew University-Hadassah Medical School, P.O. Box 1172, Jerusalem, Israel. Ice-packs for cold-sores. *Lancet* 1: 103 Jan. 14, 1978).

DESENSITIZING AGENTS FOR ROOT SURFACES

In an evaluation of calcium hydroxide and potassium nitrate as desensitizing agents for hypersensitive root surfaces, the former was found to be more consistently effective. It could be used directly after periodontal surgery to reduce pain from hypersensitive roots so that proper oral hygiene could be re-established.

Most investigations of desensitizing agents have relied on the patient's subjective responses. In this study, a controlled application of quantitative stimuli was used. The mechanism was developed by Naylor (1961) and modified by Smith and Ash (1964). Six male and six female patients ranging in age from 30 to 55 years participated in the study. Two of them had hypersensitivity as a result of gingival recession; the others had hypersensitivity related to periodontal surgery. In all, 39 teeth were included — 13 were treated with calcium hydroxide, 13 with potassium nitrate, and 13 with sterile water for control purposes. Hot and cold sensitivity, and sensitivity to mechanical stimulation were measured immediately after application, at one and two weeks, and at one, two, and three months; these readings were compared with sensitivity readings made before application of the medicaments.

Statistical analysis of the results showed that calcium hydroxide was the more successful medicament in relieving sensitivity immediately. At the end of the testing period, potassium nitrate and calcium hydroxide had comparable results and appeared to relieve sensitivity equally well as compared to the

control. All results were statistically significant when compared to the control. (Green, Barry Lee; Green, Margaret L.; and McFall, Walter T., Jr. USAF Medical Center, Wright-Patterson AFB, Ohio 45433. Calcium hydroxide and potassium nitrate as desensitizing agents for hypersensitive root surfaces. *J Periodontal* 48: 667-672 Oct. 1977).

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NEW BOOKS

MANUAL OF CLINICAL PERIODONTICS 2nd Edition

By HOWARD L. WARD, B.A., D.D.S., M.A., F.A.C.D., and MARVIN R. SIMRING, B.A., D.D.S., F.A.C.D., F.I.C.D., with 25 contributors. May, 1978. Approx. 272 pp., 7" x 10", 731 illus. ISBN 0-8016-5343-6. About \$13.50. (P)

HIGHLIGHTS: A practical, how-to-do-it manual, this book provides authoritative guidelines on all basic clinical periodontic procedures. Both theory and rationale are implemented in topics ranging from examination, treatment planning, instrumentation, and surgical techniques to dental hygiene procedures. New chapters explore utilization of the assistant; hospital periodontics; establishing a prognosis; case presentation; and therapeutics. More than 700 illustrations — including many step-by-step line drawings — augment thorough explanations.

AUDIENCES: A basic text for courses in periodontics; a reference for general practitioners, periodontists, prosthodontists, dental hygienists, and dental assistants.

Monheim's LOCAL ANESTHESIA AND PAIN CONTROL IN DENTAL PRACTICE 6th Edition

By C. RICHARD BENNETT, D.D.S., Ph.D. January, 1978. 6th edition, approx. 336 pp., 6" x 9", 123 illus. ISBN 0-8016-0609-8. About \$17.50. (H)

HIGHLIGHTS: Updated throughout, the new 6th edition of this text provides important information on the control of pain in all stages of dental practice. This edition includes a completely rewritten chapter on sterilization. Other chapters examine such topics as: theories on pain, anatomical considerations, conscious sedation, and armamentarium. There are extensive discussions on local anesthesia — including techniques, dosages, complications, office emergencies, and legal implications. Approximately 75 of the 123 illustrations are completely new to this edition.

AUDIENCES: A basic text for courses in local anesthesia for dentists and dental hygienists; a reference for both students and practitioners.

HANDBOOK OF MEDICAL EMERGENCIES IN THE DENTAL OFFICE

By STANLEY F. MALAMED, D.D.S. Chapter 4, Medical-Legal Considerations by GERALD A. SHEPPARD, B.A., LL.B. March, 1978. Approx. 385 pp., 7" x 10", 135 illus. ISBN 0-8016-3077-0. About \$7.95. (P)

HIGHLIGHTS: This book provides on-the-spot assistance for medical emergencies which may occur in the dental office. The first section summarizes information on specific emergencies into a convenient review. Six subsequent sections deal with various potential emergencies in depth. Organized around patient symptoms these include: unconsciousness; respiratory difficulty; local anesthetic reactions; convulsive seizures; drug reactions; and chest pains.

AUDIENCES: A basic text for dental school courses in anesthesia and dental hygiene; a reference for both students and practitioners.

ORAL DIAGNOSIS 5th Edition

By DONALD A. KERR, D.D.S., M.S., MAJOR M. ASH, D.D.S., M.S., and H. DEAN MILLARD, D.D.S., M.S. January, 1978. 5th edition, approx. 448 pp., 7" x 10", 469 illus. ISBN 0-8016-2660-9. About \$18.50. (H)

HIGHLIGHTS: An excellent introduction to oral diagnosis, this well-known book is organized to correspond with the sequence used by the dentist in the clinical situation — proceeding from taking the patient's history through clinical examination, diagnosis, and treatment planning. For each part of the examination, the authors describe procedures, normal structure, possible abnormalities, and pathologic significance. This new edition is well illustrated with photographs and drawings; color plates depict primary and secondary lesions. The chapter on case histories now includes more information on the medical history.

AUDIENCES: A basic text for courses in oral diagnosis in dental schools and dental hygiene programs; a reference for dental hygienists.

(These texts are available from the C.V. Mosby Company, 86 Northline Road, Toronto, Ontario M4B 3E5).

NATIONWIDE

TWO USEFUL REFERENCES

SHOPPING FOR FOOD AND NUTRITION/LA NUTRITION À BON PRIX

The Canada Department of Agriculture and the Department of National Health and Welfare have joined forces to produce an excellent publication entitled *Shopping for Food and Nutrition*. It provides practical guidelines to help Canadians shop wisely and carefully for food and nutrition. The 32 page booklet is divided into six chapters: Nutrition; Shopping Strategy; Your Food and Your Money; Ready-made or Do-it-yourself?; Waste Not, Want Not; and an appendix with Canada's Food Guide, a beef chart, storage times, a metric table and references.

This booklet is simply written and well illustrated. It would be a useful addition to the dental hygienist's reference collection as well as for personal use. Free copies in French and English may be obtained by writing to: Information Directorate, Department of National Health and Welfare, Ottawa, Ontario K1A 0K9, or Information Services, Canada Department of Agriculture, Ottawa, Ontario K1A 0C7.

TOOTHBRUSHING AND FLOSSING — A MANUAL OF HOME DENTAL CARE FOR PERSONS WHO ARE HANDICAPPED

This American publication was written by Dr. Paul Casamassimo who is a specialist in children's dentistry and is a member of the Academy of Dentistry for the Handicapped. The booklet was designed to assist persons who are handicapped or those who care for them at home, at school or in other settings, to make dental care an important part of the daily health care routine.

This 16 page publication is extremely well illustrated and is divided into the following sections: identifying and removing plaque; brushing the teeth; flossing the teeth; patient positioning; examining the mouth; check your progress; brushes for self-help; and points to remember. This manual is available from: The National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612, U.S.A. for a price of one dollar and fifty cents in U.S. currency.

Sharon B. French, R.D.H., M.S.
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- | | | | | |
|------|------|------|------|-------|
| 1. d | 2. c | 3. d | 4. c | 5. c |
| 6. a | 7. a | 8. b | 9. d | 10. c |

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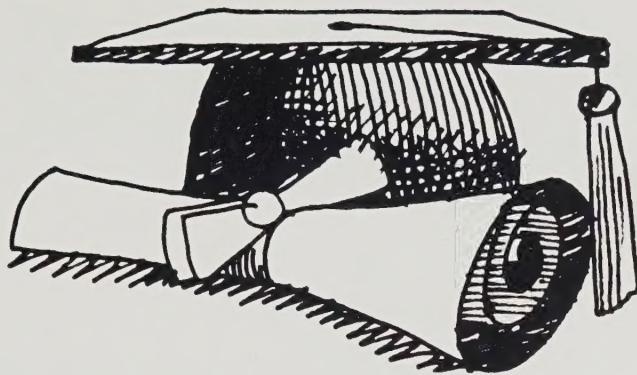
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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1978 HIVER

VOLUME 12, No. 4

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are \$10 per year in Canada and \$12 per year for all other countries. Subscriptions are payable to January 1st and new subscribers should not remit until billed.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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"PARTICIPACTION"



Carol Worobey, President 1978-1979

Carol Worobey of Winnipeg, Manitoba was recently installed as the 14th President of the Canadian Dental Hygienists' Association. Since graduating from the University of Manitoba in 1966, Carol has been employed in several different areas including public health, private practice and dental assisting education. Currently, she is the co-ordinator of educational media for the Department of Nursing at the Health Sciences Center and, in addition, is involved in part-time dental assisting education.

1978-79 promises to be a very busy and exciting year, and I look forward to working with all CDHA members to make it a success.

This year should perhaps be entitled "Participaction", not because we are about to walk a block — although for everyone who listened to Ken Cooper at the B.C. '78 Convention, it wouldn't hurt — but because some very positive ideas have come forward from the action ballot which Long-Range Planning sent out in the Spring Journal.

You have indicated a desire for CDHA to be actively involved in promoting continuing education, and an energetic beginning has been planned! Provincial continuing education chairmen and public relations officers will be selected to work with CDHA chairmen in planning April 7, 1979, as National Continuing Education Day. The Manpower and Utilization Committee will be conducting a national survey and working with Long-Range Planning to assess education needs and implementation. Our new Junior Membership Chairman and Dental Auxiliary Liaison Officer will be working closely with their respective groups; and don't forget that April is Dental Health Month! Please contact your provincial executive and delegate(s) for all the details.

July, 1979, will end the year with CDHA hosting the International Symposium and a Continuing Education Workshop with representation from all provinces.

Our association is investing in people — YOU — let it be representative by becoming involved and voicing your concerns; by working together our goals can be realized. Remember, "the only ceiling life has is the one we give it;" we are surrounded by infinite possibilities for growth and achievement.

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CONVENTION 1978

The 15th Annual Session of the CDHA held in Winnipeg, Manitoba, September 10-13, exhibited a uniqueness of its own. All members of the dental team learned and socialized together during the greater part of the convention. The theme, "Participate in '78", was carried throughout the scientific sessions and social events.

Prior to the Annual Meeting, the Board of Directors and other key leaders had a unique opportunity to try problem solving at a one day workshop. Morag Fullilove of the American Dental Hygienists' Association, along with our own Pat Johnson and Sherita Clark were the workshop facilitators. CDHA's prime concern this year will be continuing education and the workshop enabled members to discuss strategy and suggest ideas on promoting this goal.

The scientific session of the convention was led off by presentations given by our own hygienists. The first presentation on Monday was made by Suzanne Kennedy and Nancy Dawson, two dental nurses who were dental hygienists prior to their enrollment in dental nursing. They reported on the education of dental nurses, their duties in delivering dental care and their personal reactions. The afternoon brought Bunny Gitzel with a presentation on "How the Eye Can Help the Tooth — Visual Aids for Dental Health". Her lively and entertaining presentation was also an introduction to our table clinics on prevention. One of the table clinics was presented by two Alberta students who were the winners of the C.D.H.A. Student Table Clinic Competition. The two final days belonged to the keynote speakers, Dr. Richard Klein and Dr. Ralph O'Connor from Tacoma, Washington. Their presentation on "Organization and Management of Modern Dental Practice" made it possible for the complete dental team to attend their sessions and return home to their offices with new knowledge on office management and staff relations.

Of course, not one registrant could ever forget the social events. At the opening ceremonies, an ethnic festival made it possible for people to visit all corners of the world via music, dancing,



Retiring President Jane Costigane addresses participants during CDHA Annual Meeting in Winnipeg.

and culinary delights. On Monday night, the "At Home Reception" allowed members to meet and visit with their C.D.H.A. Executive Council. Tuesday night belonged to the "NIGHT B4", a night of Disco dancing. Who can forget the disco girls and guys, the music, the lights, the food, and of course the disco and jive contests! A night to remember and a grand finale to a successful convention for all those involved.

On behalf of the Convention Committee, I would like to thank all those who attended and helped to make this convention a success. I would also like to say a special thank you to my committee who spent many long working hours on the convention so that YOU, the participant, enjoyed yourself.

Next year, we are moving all the way to the west coast to Vancouver where we will have the honor of hosting the 7th International Symposium on Dental Hygiene. Plan to attend now.

*Diane Girardin,
Convention Chairman*

NOMINATIONS SLATE APPROVED

The Nominations Slate for 1978-79 was approved as follows:

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Manpower and Utilization	Elaine Good
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Nominations	Diane Girardin
Convention 1979 (International Symposium)	Joan Voris

CDHA TRANSACTIONS 1978

The CDHA Board of Directors convened for the 15th Annual Meeting September 9 and 10, 1978 in Winnipeg, Manitoba. Members of the Board present were: Jane Costigane, President; Carol Worobey, President-elect; Diane Girardin, First Vice-President; Elaine Good, Treasurer; Jeannie Beadie, Secretary; Iris Gold, Immediate Past President; Jo Gardner, Mary Bland, Pat Robertson, B.C. Delegates; Jan Ritchie, Marg Suss, Alberta Delegates; Marge Bailey, Sask. Delegate; Sandra Lemoine, Manitoba Delegate; Debbie Lang, Sharon Sample, Linda McCance, Anne Bosy, Ontario Delegates; Lorraine Brouillard, Quebec Delegate; Joanne Mitton, N.B. Delegate; Pat Grant, N.S. Delegate; Audrey Newcombe, P.E.I. Delegate.

Also in attendance were: Dianne Bryant, Auxiliary Liaison Officer; Carol Kline, Chairman, Manpower and Utilization; Pat Johnson and Sherita Clark, Chairmen, Long Range Planning; Judy Dickey, Executive Secretary; Ailsa Wood, Bookkeeper; Kate McDonald, Representative, C.D.A. Committee on Survey Policy; Cathy Dancho, Representative from Newfoundland Dental Hygienists' Association. Observers from different provinces were also present.

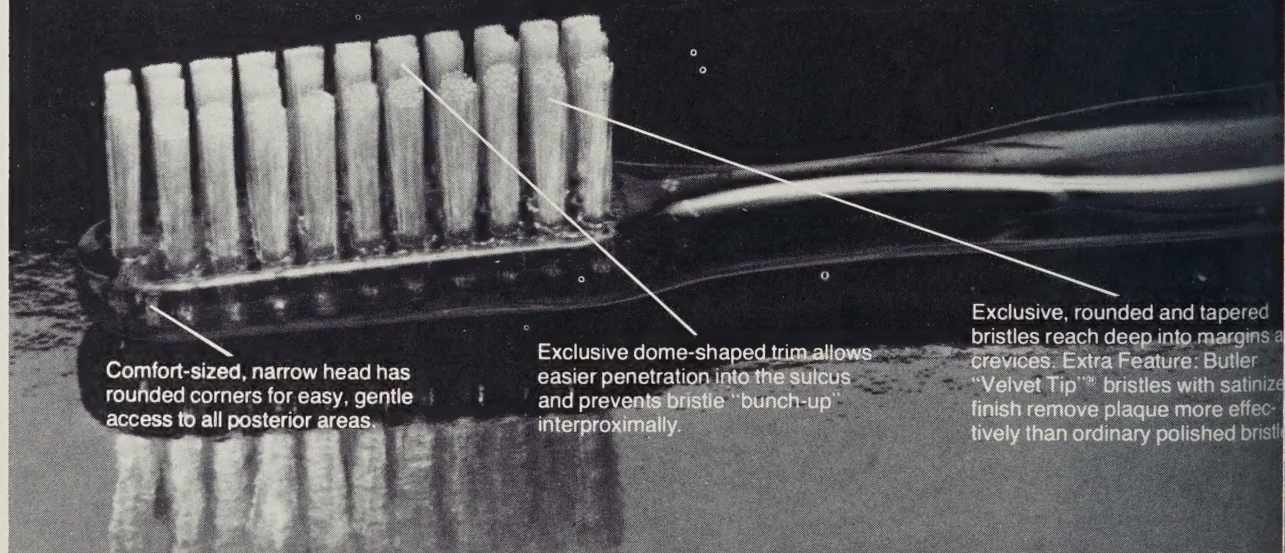
The Speaker for the meeting was Marnie Forgay. The lengthy agenda was discussed and the following summary highlights some of the actions taken during the meeting:

- The Action Ballot sent out by the Long Range Planning Committee indicated continuing education as being a concern of our members. CDHA has therefore designated continuing education as its number one goal for the coming year. CDHA will be sponsoring a "Continuing Education Day or C.E. Day" which is to be held regionally, provincially, or locally across Canada on April 7, 1979.
- Frequent requests have been received regarding the availability of financial assistance for students. The Education Committee has been instructed to compile and maintain a current list of bursaries and scholarships offered to dental hygiene students in Canada.
- The amendments to the B.C., Manitoba, Ontario, and P.E.I. Constitutions and Bylaws have been adopted. Newfoundland's Constitution and Bylaws were also adopted, therefore making the Newfoundland Dental Hygienists' Association the newest constituent of CDHA.
- Marnie Forgay's many years of devotion to the advancement and growth

of dental hygiene has been rewarded by CDHA. She was made a Life Member of our association.

- A junior membership kit containing specific organizational information will be prepared to encourage membership in the Association on a junior level.
- The Executive will be appointing someone to organize a Canadian Dental Hygienists' Junior Association.
- A resolution was passed that due to the increased cost of postage, any returned journals marked "moved" or "address unknown" would not be re-mailed until the member submits a change of name and/or address.
- Letters of appreciation were sent to the following:
Marjorie Dimitri for her outstanding contribution to the Journal over the past several years; Carol Kline for her years of service to the Manpower and Utilization Committee; Joan Voris for her years of service to the Education Committee; Marnie Forgay for being Speaker for the Annual Board Meeting and becoming a Life Member; and other representatives and/or chairmen of committees leaving their positions.
- The Executive Council has appointed a Search Committee for the position

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of Editor of the Journal.

- The document "Definition of a Dental Hygienist" was adopted as amended.
- A survey of the dental hygiene profession in Canada is to be conducted before the end of 1979 to supplement information available in the Data Bank.
- Jane Costigane, Pat Johnson and Sherita Clark were designated as CDHA workshop facilitators who could conduct regional workshops if requested. CDHA Leadership Workshops for members may be funded on a 60/40 ratio with constituent associations paying 40% of the workshop costs. CDHA grant monies will be available for these workshops upon approval of applications which meet the established grant criteria.
- The Quebec Dental Hygienists' Association was given permission to translate and print the pamphlet entitled "Dental Hygiene in Canada: Registration, Licensure, Practice."
- The constituent associations were made responsible for organizing fund raising projects with a target of \$5.00 per member to support the ongoing and special activities of the CDHA.
- The CDHA is to recommend to the Canadian Fund for Dental Education Board that a search be made in co-

operation with CDHA to locate suitable female candidates for appointment to the CFDE Board. This is to be done in order to reflect the diversity of the Canadian population and to ensure the CFDE Board is sensitive to the needs of women (dentists, auxiliaries, others) as contributors and applicants.

The complete agenda book and the minutes of the Annual Meeting are on file with members of the Executive Council, provincial delegates to the Board of Directors, and CDHA Committee Chairmen.

"LOVE YOUR DENTAL HYGIENIST" T-SHIRTS

Traditionally, the Nova Scotia Dental Hygienists' Association has awarded a prize to the first year dental hygiene student going into second year, who has shown outstanding ability in the field of patient education or preventive dentistry. Usually the funds were raised by means of a potluck dinner and auction. Because T-shirts have become so popular, we decided to try our hand at selling enough of these to fulfill this same purpose. T-shirts are no longer underwear. They splash messages everywhere. Why not use them to alert the public to

dental hygienists? "Love your Dental Hygienist" enclosed in a heart is an appropriate method of achieving both goals. The T-shirts are extremely popular. Not only are hygienists wearing them but also dentists, dental hygiene students, dental students, and yes, even patients. What began as a simple fund raising project has become a new method of invoking an awareness of dental hygienists — and dental care.

The T-shirts are navy blue with white writing and are available in Boys' large, or Men's small, medium, or large sizes for \$6.00 (including mailing) from N.S.-D.H.A., P.O. Box 3593, Halifax South Postal Station, Halifax, N.S.

Terry Mitchell, Nova Scotia
Dental Hygienists' Association

CORRECTION

The correct answer to question 2 of the self-assessment test in the fall issue of the journal is "b", not "c" as indicated.

2. An example of a pedunculated lesion is
- a. leukoplakia
 - b. papilloma
 - c. herpes labialis
 - d. fibroma

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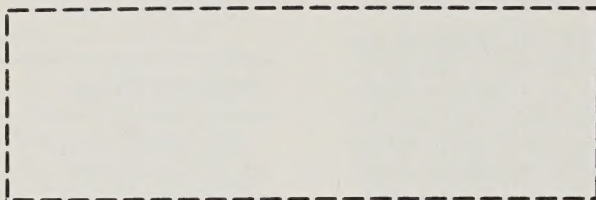
An Evaluation of the Effectiveness of Various Toothbrush Bristles to Remove Dental Plaque — B.L. Baker BS, DDS

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PUBLIC'S VIEWS TOWARD REGULAR DENTAL CHECKUPS

A majority of Americans think it is important to see a dentist every six months, but considerably fewer actually have a checkup that often. In a recent American Dental Association survey of the general public, 56 percent of those queried said they should have at least a semi-annual checkup, but only 31 percent had visited a dentist in the previous six months. Another 23 percent had visited a dentist within the past year.

Twenty-two percent of the respondents reported that they had not had a dental visit for three or more years. The study revealed that those earning the highest incomes are more likely to visit a dentist every six months.

When asked what consequences they thought they might suffer by not having a dental checkup in a year, 19 percent said none, while 25 percent thought they would need some fillings. The survey showed that older people are less likely to feel they need routine check-

ups, teeth cleaning and dental treatments.

The ADA study was based on personal interviews with 1,949 individuals 18 years of age and older, conducted by the Opinion Research Corporation of Princeton.

JAMES A. GUEST NEW CFDE BOARD CHAIRMAN

Dr. Jim Guest of London, Ontario, was appointed Chairman of the Canadian Fund for Dental Education's Board of Trustees at the recent CDA Board of Governors meeting in Winnipeg. He succeeds Dr. John W. Neilson of Winnipeg who resigned after serving as Chairman for the last three years. Dr. Neilson will continue as a Trustee until the completion of his term in 1979.

Dr. Guest has been a CFDE Board member since 1974 and was the unanimous choice of his fellow Trustees to replace Dr. Neilson as Chairman. Dr. Guest has conducted a general practice

in London, Ontario, for over thirty years and also been a part-time teacher of Restorative Dentistry at the University of Western Ontario since the Dental Faculty started in 1966.

Other CFDE Board changes include the appointment of Dr. Robert Dupont of Montreal as a successor to Dr. Henri Brouillet (also of Montreal) who retired after serving with distinction for a full term of six years.

Mr. Stanley O. Tebbutt, Vice-President of Dentsply Canada Limited, was reappointed as Vice-Chairman of CFDE and Mr. Alex S. Currie, President of Denco, as a Trustee.

CE DAY APRIL 7TH

At their recent meeting in Winnipeg, the Board of Directors of the Canadian Dental Hygienists' Association adopted continuing education as the number one goal of the Association. To this end, April 7th, 1979, has been designated as "Continuing Education Day" in Canada. This is an opportunity for dental hygienists across the country to participate in a variety of continuing education activities and we would encourage each and every one of you to get involved. For more information, please contact your provincial delegate(s).

ADHA TO MOVE HEADQUARTERS

The Board of Trustees of the American Dental Hygienists' Association recently announced that the Association will move its headquarters to 444 North Michigan Avenue. The Trustees' decision to move from its present offices in the American Dental Association Building at 211 East Chicago Avenue, was based on the Association's recent growth and increasing space needs.

In making the announcement the Association's President Jeannette Buchanan stated that "Through the years the American Dental Hygienists' Association has enjoyed a close and viable relationship with the American Dental Association which we expect to continue. We will work to ensure that this move necessitated by practical conditions will in no way affect our strong interface with organized dentistry."

The new headquarters consists of more than 11,400 square feet and will include not only additional office space but also a conference room, print shop and storage space. The move to the new space is scheduled for completion by December, 1978. The move marks the first time the Association functions will be consolidated in one building since 1976.

NATIONAL EDUCATION WEEK ON SMOKING

Dear Dental Hygienists:

Across Canada, various agencies and health organizations, for the week of January 22 to 26, 1979, will be participating in the National Education Week on Smoking (NEWOnS).

In addition to the smoking and health education that is a part of your daily professional routine, I would encourage your efforts to increase public awareness during this week.

S. Buchan, *Dental Hygienist*
Toronto

TOBACCO AND ORAL HEALTH

Many people realize that by smoking they increase the chance of developing lung cancer, but they don't know that they also increase the risk of oral cancer. 90% of oral cancer victims smoke.

"This year an estimated 15,000 people with oral cancer will be diagnosed. Within 5 years, many of these people will be dead. Each year, approximately 7,000 people die from oral cancer."¹

A routine soft tissue examination for each patient could mean the early detection of oral cancer, making successful treatment possible and perhaps save a life. As a responsible member of the Preventative Health Team, it is up to you to create a public awareness of the oral consequences of tobacco use. Tobacco, in any form can cause cancer. Switching to a pipe or cigar does not remove the risk.

Besides the risk of oral cancer, inform patients that tobacco:

1. Stains the teeth.
2. Causes halitosis.
3. Dulls the sense of taste — patients compensate by increased sugar amounts — indirect role in caries production.
4. Allows colds and sore throats to occur more often.
5. Increases the tendency of periodontal disease.
6. Prolongs healing in the mouth.
7. Encourages the deposition of calculus.
8. Causes "Hairy Tongue".
9. Can cause malocclusion — pipe constantly resting against teeth.

A variety of human reactions are tied up with the smoking habit. We cannot evangelize patients into not smoking, but we can give them the facts and encourage cessation of tobacco use.

¹American Dental Association, *Smoking and Oral Cancer*, 1972.

MARCH 1, 1979 DEADLINE FOR CFDE TEACHER TRAINING FELLOWSHIPS

Applications are invited for teacher/researcher training fellowships, it has been announced by the Canadian Fund for Dental Education. The deadline for filing applications is March 1, 1979. Forms and additional information may be obtained from the dean's office in any Canadian dental school or the Canadian Fund for Dental Education, Suite 205, 44 Eglinton Avenue West, Toronto, Ontario M4R 1A1.

Conditions

Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry or a school of dental hygiene. Preference will be given to those applicants who will return to a **full-time** teaching/research position. Minimum commitment in this regard is two days per week. A fellowship recipient is obligated to give a year's full-time service to a school for each year of full fellowship support or a year's half-time service for each year of half fellowship support.

Each fellowship is for one year of study at the graduate level. The fellowship may be renewed if progress is satisfactory. The value of the fellowships will be determined annually by the Advisory Committee on Fellowship Selection and the Board of Trustees.

FLUORIDATION SUPPORT RENEWED BY WORLD UNIT

At its thirty-first meeting held recently, the World Health Assembly adopted a resolution supporting the fluoridation of public water supplies.

In part, the resolution said, "Recognizing that safe, inexpensive, and effective methods of preventing dental caries exist, especially by the optimal adjustment of the fluoride content of public water supplies . . . (the assembly) believes that where fluoridation . . . is not feasible . . . alternative methods of achieving an optimum daily intake or application of fluoride should be considered."

Additionally, the assembly requested the Director-General to "continue to provide technical advice and assistance to Member States in the prevention and control of dental caries . . . by fluoride . . . and all other available means."

CFDE REMINDER

If you have not done so already, there is still time to contribute to the Canadian Fund for Dental Education. All donations received prior to December 31st are tax deductible for 1978 and will be acknowledged with thanks. Send your cheque marked "Dental Hygiene" today to:

Canadian Fund for Dental Education
Suite 205, 44 Eglinton Avenue West
Toronto, Ontario M4R 1A1

REPRINTS AVAILABLE ON ORAL CANCER FEATURE

The March, 1974, issue of the CDA Journal featured a highly acclaimed special report on cancer of the mouth. The report was comprised of a series of seven articles dealing with various aspects of oral cancer and written by top dental specialists from across Canada. Two pages of four-colour photographs illustrating typical lesions of the oral cavity were also part of this feature section.

Reprints of this special report on cancer of the mouth may be obtained, free of charge, by writing to: The Canadian Dental Association, Bureau of Public Information, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

MISLEADING BLOOD PRESSURE READINGS

Standard cuff measurements of diastolic blood pressure can err on the high side by as much as 40 mm Hg in older patients with atherosclerosis, according to *Medical World News*. Furthermore, medication for hypertension could produce severe postural hypotension, syncope, or even stroke in these patients. A team at the University of Western Ontario compared indirect and direct blood pressure measurements of 40 presumably hypertensive patients and found that the direct intra-arterial measurements in 18 cases were below 90 mm Hg whereas the indirect readings were above 100 mm Hg. A 30-mm-Hg error was detected in half of the 24 patients over 60; 69% of them had an error of 15 mm Hg or more. Measurement errors were also found among the 16 younger patients in the study; seven of these patients had fat or large arms. The indirect measurement also underestimated systolic pressure by more than 30 mm Hg for five patients, all of whom were over 55. Dr. William McFate Smith, chairman of the U.S. Public Health Service hypertension co-operative study group has called the findings of the Canadian team "alarming" in view of mass hypertension screening efforts under way in the United States.

CONTINUING EDUCATION MANITOBA 1978 - 1979

The Manitoba Dental Hygienists' Association, in conjunction with the School of Dental Hygiene University of Manitoba, will be offering the following continuing education programs in the new year:

Manitoba Dental Association Mid-Winter Convention — January 26, 27/79

The topic of this meeting is "What you are is where you were when." The program is being presented by Mr. Terry Heineman. Highlights of this program include a discussion of understanding and dealing with value judgements, coping with change, and communication with others in your own age group. **Periodontology-Pathology Review — February 7, 8/79**

Developing Preventive Programs — April 7, 1979

— "C.D.H.A. National Continuing Education Day"

Refresher Program in Clinical Dental Hygiene

This will be a two week program from June 4-15/79. Registration is limited to twelve people. The program will be a lab/clinic/didactic refresher course designed for hygienists who have been out of practice for awhile.

For further information concerning registration and enquiry, contact Cara Tax, 8-652 Cavalier Dr., Winnipeg, Manitoba R2Y 1C1. Phone: 889-6372.

LAST CALL FOR PAPERS

Dental hygienists interested in participating in the program of the 7th International Symposium on Dental Hygiene are invited to submit a summary of a 15 minute presentation relating to the theme of "Life Long Learning"

Suggested subject areas are:

- Educational experiences and opportunities beyond undergraduate education.
- Unique dental hygiene experiences in community dentistry
- Successful implementation of changes in clinical dental hygiene practice

Invited and contributed papers in these and other areas will be critically reviewed and selected for presentation at scientific sessions, seminars and workshops.

DEADLINE FOR RECEIPT OF SUMMARIES IS DECEMBER 31ST, 1978. Submissions should be approximately 200 words in length and should be sent to: **Joan S. Voris, General Program Chairman**

7th International Symposium on Dental Hygiene
1125 West 8th Avenue, Vancouver, B.C. Canada V6H 3N4

CONSUMER REPORTS EXPOSES ANTIFLUORIDATIONIST CLAIMS

Consumer Reports magazine has published an outstanding two-part series on fluoridation in its July and August issues. The articles are perhaps the most thorough expose on the charges of antifluoridationists ever published.

Part one scrutinizes the most prominent charge of antifluoridationists — that fluoridated water causes cancer in humans. *Consumer Reports* said it found the charge to be completely baseless. Part two refuted six of the more persistent arguments against fluoridation: that fluoride is a poison, causes birth defects, is mutagenic, causes allergic reactions, causes cancer in animals and contributes to heart disease.

Various Association agencies in recent years have worked closely with Consumer's Union, which publishes *Consumer Reports*, on fluoridation and other topics. This article is, in part, a result of these long-term efforts.

CANADIAN POSITION ON CYCLAMATES

Health and Welfare Minister Monique Bégin recently announced that the use of cyclamates will now be permitted as sweetening agents in drugs. Cyclamates will also continue to be available in table-top sweeteners. However, the use of cyclamates will not be permitted in foods or soft drinks.

In 1969, because of suspicion that cyclamates were carcinogenic, Canada restricted their use to table-top sweeteners, while requiring their removal from foods and drugs. Since 1969, additional information and many new and more sophisticated testing procedures have led to a general agreement that cyclamates are not carcinogenic.

Based upon animal experiments, it has been possible to determine the acceptable daily intake (A.D.I.) of cyclamates for humans. This amount, which can be taken safely throughout the life of the individual, has been calculated to be 10 milligrams/kilogram of body weight/day for cyclamate, or 550 milligrams/day for a 55 kilograms (121 pound) individual.

For comparative purposes, a serving of table-top sweetener contains approximately 125 milligrams of cyclamate. The A.D.I. would be used by a person consuming only four servings of table-top sweetener (e.g. 4 cups of coffee) daily. Based on the above calculation, the status of the use of cyclamates in foods, including beverages, will remain unchanged.

NATIONWIDE

NEW PUBLICATIONS

1. **Water Fluoridation**

Fluoridation in Canada as of December 31, 1976/La Fluoruration au Canada au 31 décembre 1976.

Fluoridation and Cancer: An analysis of Canadian Drinking Water Fluoridation and Cancer Mortality Data/Fluoruration et Cancer: Une analyse de la fluoruration de l'eau potable Canadienne et des données sur la mortalité par cancer.

Copies of these reports can be obtained free of charge from:

**Information Directorate
Department of National Health and Welfare**

**Brooke Claxton Building
Ottawa, Ontario K1A 0K9**

2. **Environmental Fluorides**

2.1 **All Sources**

Environmental Fluoride 1977 by Dyson Rose and John R. Marier, Publication No. NRCC 16081 of the Environmental Secretariat.

Available from:

Publications

National Research Council of Canada

**100 Sussex Drive
Ottawa, Ontario K1A 0R6**

Price: \$2.00

2.2 **Industrial Sources**

Final report, Canadian Public Health Association, Task Force on Fluoride, Long Harbour, Newfoundland, 1978.

Submitted to the Department of Health, Province of Newfoundland by the Canadian Public Health Association, 1335 Carling Avenue, Suite 210, Ottawa, Ontario K1Z 8N8.

3. **Career Counselling**

Careers in Health Services/Carières dans les services de santé Catalogue No. MP-20115-1978 — Occupational and Career Analysis and Development Branch, Employment and Immigration Canada. Copies available at a charge of \$1.00 in Canada and \$1.20 in other countries by mail from:

**Printing and Publishing Division
Supply and Services Canada
Hull, Québec
K1A 0S9**

or through your bookstore.

Sharon B. French
Ottawa

7th INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

INTERNATIONAL LIAISON COMMITTEE on Dental Hygiene



Dear Colleague,

International Symposia on Dental Hygiene were inaugurated and originally sponsored by the American Dental Hygienists' Association. Under their sponsorship International Symposia were held in Italy in 1970, Switzerland in 1971, United Kingdom in 1972 and Amsterdam in 1973. The last two symposia, in Japan in 1975 and Sweden in 1977 were sponsored and organized by the National Dental Hygiene Associations in those countries.

At the London meeting in 1972 an International Liaison Committee on Dental Hygiene was set up and held its first meeting in Amsterdam in 1973. The principal function of this Committee at the present time is to co-ordinate arrangements for International Symposia and provide a world-wide forum for dental hygienists and other dental health personnel. National Dental Hygiene Associations are represented on this Committee from countries where National Associations exist.

The next Symposium is to be held in Vancouver, Canada, on 25th-28th July 1979 sponsored by the Canadian Dental Hygienists' Association. Bearing in mind the need for all professional operators to keep abreast of current research, trends and opinions, the Canadian Association has chosen as the main theme "Life Long Learning".

I do hope that you will be able to accept this invitation to join hygienists world-wide for this international meeting.

Yours sincerely,

Wendy Leech, M.B.E.
Chairman, International Liaison
Committee on Dental Hygiene

JULY 25 TO 28, 1979, VANCOUVER, B.C., CANADA

PLAN NOW TO PARTICIPATE IN THE ACCUMULATION OF KNOWLEDGE AND TO ENJOY THE HOSPITALITY OF THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION.

SCIENTIFIC PROGRAM

Life Long Learning



The 7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE will be held in Vancouver, Canada on July 25 to 28, 1979. The theme of the symposium is "Life Long Learning" and outstanding international lecturers, clinicians and panelists are being brought together to discuss the theme in its broadest scope.

SCIENTIFIC PROGRAM

The scientific program of the 7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE is being planned to provide practical knowledge and pertinent information which can be used in all countries. Arrangements are also being made for continuing education credits for participation in these sessions.

Thursday, July 26

The Opening Ceremony has been scheduled for Thursday morning. One of the highlights of this session will be the keynote address by Dr. George Beagrie, Vice-Chairman of the Commission on Dental Education for the Fédération Dentaire Internationale and Dean of the Faculty of Dentistry at the University of British Columbia. In the afternoon, specific issues relating to continuing education for dental hygienists will be identified and discussed in a formal presentation as well as a panel involving representatives of the member countries.

Friday, July 27

Friday morning will be devoted to the presentation of invited and contributed papers. On Friday afternoon, conference participants will have the opportunity to visit the University of British Columbia Faculty of Dentistry and participate in a table clinic program featuring Canadian clinicians.

Saturday July 28

The remainder of the scientific program will be devoted to workshops relating to the various aspects of continuing education. Preregistration for some of these workshops will be required. Although some of the workshops will continue on through to Sunday, the Closing Ceremony for the Symposium has been scheduled for late Saturday afternoon.

SPECIAL EVENTS

Wednesday, July 25: International Liaison Committee Meeting, Welcoming Reception.

Thursday, July 26: Opening Ceremony, CDHA Reception.

Friday, July 27: Reception and Banquet.

Saturday, July 28: Closing Ceremony.

OFFICIAL CARRIER

CP AIR has been appointed as the "official carrier" for the Symposium. Please contact your nearest CP Air office for information on flights to Vancouver or for details on interesting pre- or post-conference vacation ideas.

CALL FOR TABLE CLINICS

One of the highlights of the Symposium will be the table clinic presentations which are scheduled for Friday afternoon, July 27th, at the University of British Columbia Faculty of Dentistry. This aspect of the scientific program is being planned to provide participants with information relating to the various aspects of dental and dental auxiliary practice in Canada.

To this end, Canadian clinicians are invited to get involved and to share their knowledge and expertise with colleagues from around the world. Suggested subject areas include but are not limited to:

- DENTAL HEALTH EDUCATION
- CLINICAL DENTAL HYGIENE PRACTICE
- COMMUNITY DENTISTRY
- INTERPERSONAL COMMUNICATION
- PROFESSIONAL AFFAIRS

Dental hygienists interested in participating are asked to submit an outline of their table clinic presentation including the following information: Clinician's name, title of clinic, summary of presentation, and use of visuals and audio-visuals.

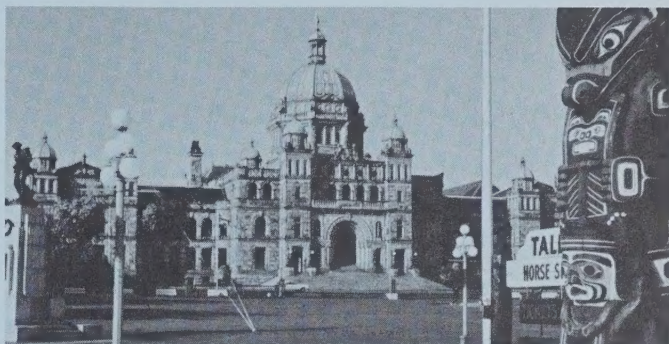
DEADLINE FOR RECEIPT OF SUBMISSIONS IS MARCH 31, 1979. Please send to:

Table Clinic Program
7TH INTERNATIONAL SYMPOSIUM
ON DENTAL HYGIENE
c/o Venue West Ltd.
#1704 - 1200 Alberni Street
Vancouver, B.C., Canada V6E 1A6

PRE- AND POST- CONFERENCE TOURS



Enjoy the majesty and beauty of the awe-inspiring Canadian Rockies.



Visit Provincial Parliament Buildings located in Victoria, the capital city on Vancouver Island.

PRE-CONFERENCE TOUR

CANADIAN ROCKIES

July 21st to 25th, 1979

(Includes 5 days and 4 nights)

Visit the Canadian Rockies enroute to the Symposium and enjoy the most beautiful mountain scenery in the world. This special tour begins in Calgary and includes stops in Banff and Lake Louise where guests will have two days and nights to really enjoy the feel of the Rockies and to explore the many interesting sites in the area. The tour then proceeds through the Rogers Pass and the Fraser Canyon into Vancouver.

POST-CONFERENCE TOURS

VICTORIA/VANCOUVER ISLAND

July 29th to August 1st, 1979

(Includes 4 days and 3 nights)

Leave from Vancouver and enjoy a quiet cruise through the scenic Gulf Islands to Victoria, the beautiful capital city of British Columbia. Highlights of this tour include a visit to the world famous Butchart Gardens, a sightseeing tour of Victoria itself, a day to browse through the unique boutiques and antique shops, and to visit the British Columbia Museum and the Parliament Buildings. The tour returns to Vancouver via an alternate route through Nanaimo and Horseshoe Bay.

ONE DAY TRIP TO VICTORIA

For those who will be unable to participate in the post-conference tour of Victoria/Vancouver Island, a one day trip will be offered. This mini tour will feature all of the highlights of the capital city of British Columbia including a visit to the world famous Butchart Gardens.

ALASKA CRUISE

July 28th to August 4th, 1979

Board the "SUN PRINCESS" in Vancouver following the closing ceremonies and cruise north through the Inside Passage to Alaska. On this tour, you will have the opportunity to visit Juneau, Skagway, Glacier Bay, Sitka and Whitehorse. This is one of the most popular tours anywhere and arrangements must be made early in order to assure space.

For further information, please contact:

7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

c/o Venue West Ltd.

#1704 - 1200 Alberni Street

Vancouver, B.C. Canada V6E 1A6

Telephone: (604) 681-5226

REGISTRATION FORM

7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE
JULY 25 TO 28, 1979, VANCOUVER, CANADA

Please Print or Type

Name ☐ Miss ☐ Ms. ☐ Mrs. ☐ Mr. ☐ Dr. _____
First Name Last Name

Address _____
Street

_____ City Province/State Country Zip/Postal Code

Spouse _____

HOTEL ACCOMMODATION

The headquarters for the Symposium and the majority of the scientific program will be at the HYATT REGENCY HOTEL in downtown Vancouver. Rooms will be available to participants at a special convention rate provided that reservations are made through Venue West Ltd. prior to **May 31st, 1979.**

Single or Twin: \$40.00.

Suite rates will be provided upon request. All rates subject to a 5 percent tax.

Accommodation will be on a first come first served basis. Reservations will be held until 6:00 p.m. on the date requested unless guaranteed by a deposit of one night's accommodation.

Please check appropriate box. I require:

- ☐ Single
☐ Twin (I will be sharing with _____)
☐ No accommodation required

TOURS

I am interested in receiving more information on the following tours:

- ☐ Canadian Rockies ☐ Victoria (one day)
☐ Victoria/Vancouver Island ☐ Alaska Cruise

TRAVEL ARRANGEMENTS

Arrival _____
Date Time

Departure _____
Date Time

If you are travelling by air, please indicate which airline: _____

SYMPOSIUM REGISTRATION

Participant with professional (dentally-related) association affiliation

.....	\$ 80.00	\$ _____
Non-member participant....	\$100.00	\$ _____
Spouse	\$ 20.00	\$ _____
Student	\$ 20.00	\$ _____
TOTAL		\$ _____

DEADLINE FOR REGISTRATION IS MAY 31ST, 1979, after which a late registration fee of \$25.00 will be charged. Cancellations received before July 1st, 1979, entitle registrants to a full refund. Cancellations after that date will be subject to a \$20.00 charge.

Continuing education credits will be assigned to the scientific portion of the Symposium program.

Please make your cheque or money order payable to the 7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE, enclose with this form and send to:

7TH INTERNATIONAL SYMPOSIUM
ON DENTAL HYGIENE
c/o VENUE WEST LTD.
#1704 - 1200 Alberni Street
Vancouver, B.C., Canada
V6E 1A6

SELF-ASSESSMENT TEST +

Most Canadian dental hygienists recognize the need for continuing education and are accepting their responsibility for keeping abreast of new developments in the delivery of dental hygiene services. Self-assessment testing is one method that may be used to better enable dental hygienists to identify areas of strengths and weaknesses.

As a result of interest in the self-assessment tests published in the 1977 issues of *The Canadian Dental Hygienist*, this feature is being continued. The 1978 series will focus on four specific areas relating to clinical dental hygiene practice, the fourth of which is pharmacology.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 92 for the correct answers.

1. A drug which dulls the perception for the interpretation of pain without producing unconsciousness is a(n):
 a. anesthetic
 b. corticosteroid
 c. analgesic
 d. anticholinergic
2. Which of the following is *not* a use of corticosteroids in the dental office?
 a. control of inflammation in ulcerations of the oral cavity
 b. suppression of salivary and bronchial secretions
 c. control of postoperative edema following extensive surgical procedures
 d. sensitization of arterioles to vasopressors so that the blood pressure may be increased
3. An example of an anticholinergic drug used in dentistry is:
 a. Oxycell
 b. Kenalog
 c. Tegretol
 d. Atropine sulfate
4. Astringents act to arrest the flow of blood by causing:
 a. a blood clot
 b. the tissue in the area to contract
 c. a narrowing or closing of the blood vessels
 d. none of the above

5. The abbreviation for four times a day is:
 a. q.i.d.
 b. q.4h
 c. q.h
 d. b.i.d.
6. Which of the following is an example of a group of wide spectrum antibiotics?
 a. sulphonamides
 b. corticosteroids
 c. streptomycins
 d. tetracyclines
7. Antibiotics are drugs which
 a. are produced by micro-organisms
 b. inhibit growth of bacteria and other micro-organisms
 c. are bacteriocidal
 d. all of the above
8. When two or more drugs are administered and the effect is no greater than the effect produced by the drugs when given individually, the action is known as:
 a. synergism
 b. additive
 c. summation
 d. potentiation
9. The most commonly used penicillin today is:
 a. penicillin D
 b. penicillin G
 c. penicillin K
 d. penicillin V
10. Some water-soluble drugs, effective as topical anesthetics, must use alcohol as the vehicle. To prevent tissue sensitivity, the concentration of alcohol should not exceed:
 a. 10%
 b. 20%
 c. 30%
 d. 40%

Suggested References

- American Dental Association. *Accepted Dental Therapeutics*, Chicago, American Dental Association, 1978.
- Dunn, M.J. *Dental Auxiliary Practice: Biological Basis and Clinical Application (Module 5)*. Baltimore, The Williams and Wilkins Company, 1975.
- Holroyd, S.V. *Clinical Pharmacology in Dental Practice*. St. Louis, Mosby, 1978.

Marjorie Dimitri, R.D.H., M.Ed.
Joan Voris, R.D.H., B.S.

SUGAR SUBSTITUTES: PROSPECTS FOR PREVENTIVE DENTISTRY

LOUISE B. MESSER, B.D.Sc., M.D.Sc.

HAROLD H. MESSER, Ph.D.

The authors are on the faculty of the School of Dentistry at the University of Minnesota.

The ban recently imposed on the use of saccharin other than as a prescription drug has again focused attention on sugar substitutes. While most of the attention has been directed toward non-caloric sweeteners, and particularly toward their potential systemic hazards, their use is also relevant to preventive dentistry. The substantial — and rapidly changing — use of sugar substitutes other than saccharin has largely escaped the attention of the dental profession, despite the potentially significant impact on dental health.

Patterns of sugar consumption:

The word *sugar* is generally used to mean refined sucrose, even though in a strict chemical sense sugar refers to a class of low molecular weight carbohydrates of which sucrose is only one member. For this discussion, the use of *sugar* will include sucrose, fructose, glucose, and so forth, except when terms in common usage such as *sugar substitute* clearly equate *sugar* with sucrose alone.

The quantity of refined sucrose consumed per capita appears to reach a maximum level of approximately 45-60 kg/year and remain stable at that level. Sucrose consumption has remained at this level for the last 50 years in the United States and for the last 20 years in the United Kingdom and Holland. Canada's consumption patterns are basically similar to those of the United States.

However, these apparently stable levels of sugar consumption fail to indicate the major changes that are occurring in the ways refined sucrose is used. Figures for the U.S. demonstrate that in 1920, approximately 70 percent of all sucrose consumed was purchased for direct home use. By 1970, only 25 percent was purchased for use in the home. More sucrose is now consumed in soft drinks alone than in all home-prepared foods and beverages, and commercial bakery goods and confectioneries also account for as much sucrose as direct home use. Thus there has been a dramatic shift toward use in commercially prepared foods, which includes in large degree the convenience and snack foods. These changes have important implications for pre-

ventive dentistry. Only a small percentage of total sucrose intake is regulated via direct home use while control of sucrose intake via snack and convenience foods is extremely difficult.

Refined sucrose is by no means the only regularly consumed sugar, and in fact constitutes only 60 percent of total sweetener intake.¹ The remainder is made up of dietary sugars (i.e., sugars occurring naturally in foodstuffs such as glucose, lactose, and also sucrose itself) and sucrose substitutes. Sucrose substitutes can be conveniently divided into nutritive and non-nutritive sweeteners. The nutritive sweeteners are generally about as sweet as sucrose and are metabolized as a source of energy. The non-nutritive sweeteners are generally much sweeter than sucrose so that they do not contribute significantly to total caloric intake and may not be metabolized to any great extent.

Sugar substitutes:

1. **Non-nutritive sugar substitutes:** Saccharin constituted only five to six percent of total sweetener consumption (in terms of the percentage of sucrose that it replaced). Thus it was quantitatively minor, and its removal from the market will have little effect on total sweetener consumption. Nonetheless, the impact on individuals such as diabetics may be very serious. A single can of soft drink represents almost 10 percent of the average total refined sucrose consumption or approximately two percent of total caloric intake. Thus the substitution of low caloric soft drinks represents a measureable reduction in caloric intake.

Future prospects for non-nutritive sweeteners are uncertain. Certification of food additives as safe requires meeting extremely stringent requirements, such that cyclamates and aspartame enjoyed only short lives in the marketplace. Other non-nutritive sweeteners are currently being evaluated, including aspartame (re-evaluated), monellin (a protein 3,000 times sweeter than sucrose), and dihydrochalcones (derived from citrus fruits). Problems have been encountered with each of these sweeteners, including stability and retention of the sweet taste of monellin and after-taste of the dihydrochalcones. With respect to dental caries, non-nutritive sweeteners are presumably noncario-

enic; however, their usefulness in a preventive dentistry regimen seems very limited², in part because of the technical difficulties associated with substitution of a low-bulk sweetener for the high bulk sugar.

2. Nutritive sugar substitutes: Several sucrose substitutes that are themselves simple sugars or sugar derivatives deserve attention in relation to dental caries. They are important because they may be highly cariogenic (the corn sweeteners) or because of their potential for reducing dental caries (sorbitol, xylitol). Honey does not constitute a major sucrose substitute for the population as a whole (0.5 kg per person per year) but may be used extensively by individuals. Its cariogenic potential has not been adequately investigated in human trials, although there is good reason to believe, based on its high content of glucose and fructose, that it is likely to be highly cariogenic. Several other nutritive sugar substitutes demand further attention.

a. Corn sweeteners. Corn sweeteners are by far the most important sugar substitute quantitatively, amounting to 30 percent of refined sucrose consumption. Corn sweeteners are derived from corn-starch hydrolysates and may be used as corn syrup (a mixture of glucose, maltose and dextrins, depending on the extent of starch hydrolysis), or as dextrose (glucose). High-fructose corn syrup, in which part of the glucose is converted to fructose, has been available commercially since 1971. It has the advantage that it is sweeter than the conventional syrup and thus can be used in smaller quantities. Fructose, also derived from corn syrup, has also recently attracted attention as a sweetener, particularly for soft drinks. Since it is almost twice as sweet as sucrose, equivalent sweetness can be achieved with half the caloric content — thus fructose can be used for “low calorie” or “diet” drinks, although the caloric reduction is only a small fraction of that obtained with non-nutritive sweeteners. While it is difficult to predict future trends concerning the use of corn sweeteners, because they are dictated largely by economic considerations that can fluctuate rapidly, it seems reasonable to assume that their use will continue to increase. Part of this increase will be at the expense of refined sucrose, but part also represents additional sweetener use.

The substitution of corn sweeteners for sucrose is not likely to be of value in reducing dental caries. Corn sweeteners are added extensively to convenience and snacking foods which are generally already high in sucrose. Sucrose may have a unique role in plaque formation by cariogenic microorganisms, but other dietary sugars may also readily metabolize to acid. Glucose and fructose, the major sugars in corn sweeteners, are excellent substrates for acid-producing oral microorganisms, and lead to a decrease in plaque pH that is as

severe and as long-lasting as that produced by sucrose.³ In the Vipeholm study in Sweden, in which the cariogenic effects of sucrose consumed in various forms at meals or between meals were tested in patients of a mental institution, the most cariogenic between-meal snacks contained mixtures of sucrose and corn sweeteners.⁴

b. Sorbitol. Sorbitol is prepared industrially from sucrose and is metabolized as a sugar. It is half as sweet as sucrose. It has been used for many years as a sweetening agent in dentifrices in concentrations up to 20 percent and has received wide publicity for its use in “sugar-free” gum. The cariogenic potential of sorbitol has not been adequately determined in human clinical trials, so the validity of the claim that sorbitol is non-cariogenic is not known. Sorbitol is metabolized by *Streptococcus mutans*, which is generally considered to be a major cariogenic microorganism. However, it does not result in a rapid plaque pH decrease such as is seen with sucrose, glucose or fructose. On this basis the Swiss government certifies sorbitol-containing foodstuffs (including candies) as “safe for the teeth”.

Several factors mitigate against the use of sorbitol as a major sugar substitute, although it may be useful in a limited range of products. Sorbitol is very hygroscopic and is generally marketed in liquid form. It is not widely available as a sweetener for home use. Additionally, it causes diarrhea because it is slowly absorbed from the intestine; for this reason the World Health Organization recommends a maximum intake of 150 mg/kg body weight per day or approximately 10 g per day for an adult, which is less than 10 percent of refined sucrose intake. The quantity consumed by children will be proportionately less: a 20kg 5-year-old, for example, should consume no more than 3 gm per day. Sorbitol-containing candy is available on the market, but we have found in our own family that a single piece was sufficient to cause diarrhea in a 4-year-old.

c. Xylitol. Xylitol is derived industrially from birch trees and is as sweet as sucrose. Initial reports of the caries-reducing effects of xylitol in human trials have been extremely favorable but must be regarded as tentative since they have not yet been confirmed and methods used are open to question. In a two-year trial in Finland, in which xylitol was substituted completely for refined sucrose in the diet of young adults, the caries increment was zero in the xylitol group compared with 7.2 new DMF surfaces in the sucrose group.⁵ In a related study, the use of chewing gum containing xylitol (1.5 g/stick, 4 or 5 sticks per day) as a supplement to an unrestricted diet actually led to a decrease in the number of carious lesions after one year. In other words, the authors reported that xylitol promoted the healing of lesions previously diagnosed as

cariou.⁵ Thus the replacement by xylitol of only five percent of an average sucrose intake virtually eliminated caries in this study. The proposed mechanisms for the action of xylitol are very diverse: (1) It reportedly was not metabolized by plaque bacteria, and inhibited bacterial enzymes involved in carbohydrate metabolism; (2) it increased salivary flow rate, pH, and calcium and phosphate concentrations, all of which would favor remineralization of early carious lesions; and (3) it altered the concentration of a number of salivary enzymes, including an increase in lactoperoxidase, which may exert antibacterial effects.

Caution must be exercised in accepting as proven the beneficial effects of xylitol. The studies all have been conducted by the same group of investigators and require independent confirmation, which is not yet available. The numbers of subjects involved were very small for caries trials (30 to 50 per group). The caries increment in the control group consuming sucrose was high (3.6 new DMF surfaces per year) for 20- to 30-year-olds, and a non-standard method of scoring carious lesions was used, which emphasized initial white-spot lesions without a surface defect — these would not be regarded as carious using standard diagnostic criteria. Animal studies of the caries-reducing potential of xylitol have yielded conflicting results.

As with sorbitol, diarrhea is a common though less severe side effect of xylitol consumption. In the Finnish study cited, complete dietary substitution of xylitol for sucrose resulted in frequent diarrhea initially (an average of one episode every four days for the first three weeks) and above normal frequency of diarrhea for at least a year.⁶ Obviously a high level of motivation would be required to persist with such a diet. In addition, the question of cancer has recently been raised in a study using rats in England, so that the future of xylitol is also uncertain.

Future prospects

In view of the patterns of refined sucrose consumption during the last 50 years, it appears unlikely that sucrose consumption will increase in the future and may well decline. This apparent favorable situation is rendered less encouraging by two trends that show no signs of abating: (1) Corn sweeteners have also become a major food additive, and the combined intake of sucrose plus corn sweeteners has been increasing steadily; (2) these two sweeteners are used increasingly in commercial food preparation, while less is used in the home. Limited evidence indicates that corn sweeteners are also highly cariogenic, particularly when combined with sucrose in the same foodstuff, as is the case with most commercial foods to which corn sweeteners are added. Thus the cariogenic potential of snack foods is not likely to decline.

Non-nutritive sweeteners have an uncertain future and little potential importance in the dietary control of dental caries. It is too early to confirm the early promise that xylitol has been claimed to hold, but the high cost of xylitol (presently 10 times that of sucrose), a limited source of supply (birchwood) and possible carcinogenic potential are major drawbacks to its widespread use even if its ability to reduce caries is established.

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1. Cantor, S.M. Patterns of use. In Sweeteners: issues and uncertainties. National Academy of Sciences, Washington, D.C. 1975, 19-29.
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6. Makinen, D.K. Dental aspects of consumption of xylitol and fructose diets. *Int. Dent. J.* 26:14-28, 1975.

CDHA EDITOR

Applications are invited for the position of Editor of the Canadian Dental Hygienists' Association, commencing January 1st, 1979. The Editor participates in all aspects of the quarterly publication of the Association's journal and in particular, is responsible for:

- Soliciting informative professional, scientific and educational contributions
- Selecting pertinent materials for publication
- Preparing copy for submission to publisher
- Planning layout, doing mock-up, and proof reading
- Co-ordinating circulation
- Preparing annual budget
- Performing bookkeeping duties relating to the editorial account
- Assisting other staff members as required

Applicants should have a good command of English composition and grammar and should be interested in dental journalism. In addition, the ability to communicate in French would be an asset.

Letters of application including a resume should be submitted to:

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INTERNATIONAL YEAR OF THE CHILD/ L'ANNÉE INTERNATIONALE DE L'ENFANT

Health and Welfare Minister Monique Bégin recently announced the formation of the Canadian Commission for the International Year of the Child, to be chaired by Judge Doris Ogilvie of Fredericton, New Brunswick.

The Commission is composed of more than 40 representatives of the federal and provincial governments, business and labour, voluntary organizations and individuals dedicated to improving the quality of childhood and family life. The Commission's function is to promote the observance in Canada of 1979 as the International Year of the Child.

The Minister views the International Year of the Child as an opportunity for all Canadians to join in a celebration of childhood and to do all in our power to make Canada and the world a better place for children. A society that truly cares for its children will thrive and the Minister is convinced that Canadians really care.

The Commission will administer a federal contribution of \$1,000,000 to the private and voluntary sectors for projects, as well as endeavour to raise additional public and private funds. Funds will be used for projects and activities designed to advance the rights, interests and well-being of children in the context of their families and society.

In announcing the appointment of the chairperson, Miss Bégin noted that Judge Ogilvie is an outstanding Canadian whose active concern for and interest in children and families has been well demonstrated. Born in Halifax, Nova Scotia, Doris Ogilvie was admitted to the Bar of the Province of New Brunswick in 1964. She was a member of the Royal Commission on the Status of Women in Canada. She is Deputy Judge of Provincial Court and Deputy Judge of Juvenile Court, County of York, New Brunswick. She is married to Dr. Robert Ogilvie and they have four daughters.

Miss Bégin said she was deeply grateful to Doris Ogilvie and the other members of the Commission who are voluntarily devoting their time and talents to making 1979, the International Year of the Child, a constructive and rewarding experience for children, their parents and for all Canadians.

Mme Monique Bégin, ministre de la Santé nationale et du Bien-être social, a annoncé la formation d'une Commission canadienne pour l'Année internationale de l'enfant. Le ministre a ajouté que Mme Doris Ogilvie, de Fredericton (N.-B.), présiderait cette Commission.

La Commission se compose de plus de 40 représentants des gouvernements fédéral et provinciaux, du monde du travail et des affaires, ainsi que d'organismes bénévoles voués à l'amélioration du sort des enfants et de la qualité de la vie familiale. Le rôle de la Commission est de promouvoir au Canada l'observance de l'Année internationale de l'enfant en 1979.

Mme Bégin voit dans l'Année internationale de l'enfant une occasion pour tous les Canadiens de rendre témoignage collectif à l'enfance et de faire tout ce qui est possible pour améliorer le sort des enfants, au Canada comme partout dans le monde. Une société qui veille au bien-être de ses enfants connaît la prospérité et le Ministre est convaincu que les Canadiens ont à coeur l'avenir de leurs enfants.

Il reviendra à la Commission d'administrer une contribution fédérale de \$1 000 000 aux secteurs bénévole et privé pour des projets et de s'efforcer de recueillir des fonds publics et privés additionnels. Ces sommes seront consacrées à des projets et des activités dont l'objectif sera de promouvoir les droits, les intérêts et le mieux-être des enfants dans le contexte de la famille et de la société.

En annonçant la nomination de la présidente, Mme Bégin a déclaré que le juge Ogilvie était une Canadienne qui s'était fait connaître par son travail désintéressé en faveur des enfants et de la famille. Originnaire de Halifax (N.-É.), Mme Doris Ogilvie a été admise au Barreau du Nouveau-Brunswick en 1964. Elle était l'un des membres de la Commission royale d'enquête sur la situation de la femme au Canada. Elle est juge adjoint de la Cour provinciale et juge adjoint de la Cour juvénile du comté de York, au Nouveau-Brunswick. Elle est mariée au Dr. Robert Ogilvie et mère de quatre filles.

Le Ministre a exprimé sa reconnaissance au juge Ogilvie et aux autres membres de la Commission qui travailleront bénévolement pour faire de 1979, Année internationale de l'enfant, une expérience constructive et enrichissante pour les enfants, leurs parents et tous les Canadiens.

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Answers to Self-Assessment Test

1. c	2. b	3. d	4. b	5. a
6. d	7. d	8. c	9. b	10. a

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MANAGEMENT OF THE IRRADIATED PATIENT

Management of the patient with cancer who is undergoing irradiation of the head and neck requires a co-ordinated team effort between the referring physician or surgeon, pathologist, radiation therapist, and dentist so that post-irradiation caries may be controlled and prosthetic appliances will fit properly.

The teeth show many clinical effects of radiation exposure. Demineralization, spontaneous death of the pulp, retardation or cessation of root formation, ankylosis, and premature loss of the permanent dentition have been reported. There is also an increased sensitivity to heat, cold, touch, and sweets, and acute onset of rapidly developing dental caries. The dental defects occur whether the teeth were inside or outside the field of radiation, although if the salivary glands are not irradiated, dental lesions do not develop. Radiation causes injury to the periosteum, bone cells, and vascular components; the metabolism of the bone is decreased; the process of repair is severely limited, and an increased susceptibility to infection and trauma occurs. The mucosa becomes thin and friable and is easily eroded. The volume of saliva is decreased and its viscosity and acidity are increased. The salivary glands may recover from doses of less than 2,000 r, but permanent damage usually accompanies larger doses.

After irradiation, the alveolar bony sockets do not heal, and the gingival tissue may slough, leaving large portions of denuded bone exposed; the muscles of mastication may become fibrotic. Tongue ulcers may appear with the third week of radiation therapy and these may persist for six to eight months after therapy is completed. Normal taste sensations usually return within a year.

Dental care in the preradiation period attempts to eliminate gross sepsis by extraction of extensively periodontally involved teeth; to eliminate inflammation and infection and restore carious lesions; to correct and maintain oral hygiene; and to anticipate the need for prosthetic appliances. During and after radiation therapy, dental care consists of continual monitoring of oral hygiene, patient comfort, and nutritional and oral health status.

The practice at various cancer treatment centers is to allow a postoperative period ranging from a week to two

weeks before radiation therapy is begun. Daily fluoride applications are made to the remaining teeth by means of a custom tray, and a strict oral hygiene regimen is followed. (Fretwell, Darwin L. University of Virginia Medical Center, Charlottesville, Va. The head and neck irradiated patient: dental considerations. *Va Dent J* 54:8-15 Dec. 1977).

TRANSMISSION OF HEPATITIS

Hepatitis B has been shown to be an occupational hazard in the dental office. Dental professions should, therefore, be aware of the mode of transmission of hepatitis B and methods of prevention.

The mode of transmission is thought to be via parenteral exposure, for instance, through blood transfusion, the use of contaminated syringes, or human bites. Parenteral entry could be through abrasions in the skin or mucosa, or through bleeding gums. There is conflicting evidence on the infectivity of saliva. Also, nonparenteral transmission may be more frequent than we previously thought.

Direct studies of sterilization of hepatitis virus are hampered because this virus has not yet been cultivated. The

table sets out the results of some studies of sterilization based on clinical impressions of how bacteria and viruses respond to various sterilizing techniques. Although suggestions have been made founded on basic sterilization principles and use of disinfectants which have been successful against certain viruses, the effectiveness of these means is unknown.

It has been universally accepted that to prevent transmission of the hepatitis agent, disposable dental instruments should be used when possible. The dentist and his staff might also wear gloves, goggles, masks, and gowns. (Hribar, D.L.A. The University of Adelaide Department of Oral Pathology and Oral Surgery, Frome Rd., Australia. Viral hepatitis: a review of clinical, laboratory, and research aspects. *Aust Dent* 22:471-477 Dec. 1977).

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Table • Effect of physical and chemical sterilization techniques on the infectivity of hepatitis A, hepatitis B, and Australia antigen in serum.

Technique	Effect on infectivity of Virus A	Effect on infectivity of Virus B	Effect on antigen
<i>Thermal</i>			
56°C 30 min	Unaffected	Unaffected	—
56°C overnight	—	Unaffected	Unaffected
60°C 2 hours	—	Unaffected	—
			CF* titre reduced four fold
60°C 10 hours (1:20 diluted in albumen)	—	Destroyed	—
			CF* titre reduced and protein altered
Boiled 20 min	—	Destroyed	Destroyed
Autoclaving 121°C 15 min	—	Destroyed	Destroyed
Ultraviolet light 8-12 m Ws ⁻¹ cm ⁻²	—	Reduced	Unaffected
Phenol 2 per cent (W/V) 7 days	—	—	Unaffected
Formalin 1.5 per cent (W/V) 7 days	—	—	Unaffected
Chlorine 10,000 ppm 30 min	Survived or inactivated	—	Destroyed

* Complement fixation
— Not tested

CDHA Guide to Submission of Manuscripts

Manuscript:

All manuscripts submitted for publication should be typed double-spaced on standard (8½ x 11) paper with a margin allowance of at least one inch all around. The original and 2 copies must be submitted, and the manuscript must not be submitted elsewhere. A title page should be included with the full title of the paper, author's full name and degree, and author's official position.

Illustrations:

These must be clearly defined, and suitable for reproduction on a reduced scale. Each illustration should be provided with a type written legend and marked in numerical order. Graphs and drawings should be accurately drawn, in Indian ink on white paper. Photographs must be glossy prints, and also be marked in numerical order.

Length:

The preferred maximum length is 8-10 typed written pages or 3000 words including references. Space taken up for illustrations should be considered in the length.

Subheadings:

It is suggested these be used within the paper for ease of reference to the reader.

References:

References should be lined up numerically. References to journal articles should be made as follows: last name of author, followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, page or pages of article to which you refer, year.

Example:

Bell, G. Role of the dental hygienist in restorative dentistry. *Dental Health* 40: 139-141, 1973.

References to books should be made as follows: last name of author followed by initials, title of book with initial letters of all except connecting words capitalized, publisher, city of publication, year of publication, page or pages to which you refer.

Example:

Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

Notice of Acceptance:

Manuscripts will be acknowledged upon receipt. Authors will be notified of acceptance and again prior to publication. Rejected manuscripts will be returned.

ACHD Recommandations aux auteurs

Textes:

Les textes doivent être remis dactylographiés à double interligne, sur papier 8½" sur 11"; toutes les marges doivent être d'au moins un pouce. Les auteurs doivent remettre un original et deux copies et le texte doit être soumis uniquement à L'Hygieniste Dentaire du Canada. Une page frontispice doit inclure le titre du texte, les noms, qualités et titres et postes du (des) auteur(s).

Illustrations:

Les illustrations doivent être claires afin que leur reproduction sur échelle réduite soit possible. Chaque illustration doit être accompagnée d'une légende dactylographiée. Les graphiques et schémas doivent être dessinés convenablement, à l'encre de Chine sur papier blanc. Les photographies doivent être des épreuves glacées; elles doivent être numérotées dans l'ordre.

Longueur du texte:

La longueur des textes devrait être de 8 à 10 pages dactylographiées ou de 3000 mots y compris les références. Les espaces pris par les illustrations doivent être inclus dans ces limites.

Sous-titres:

Les sous-titres sont recommandés afin de faciliter la lecture du texte.

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Exemple:

Zangwill, O.L. Le problème de l'apraxie idéatoire. *Revue Neurologique*, 102: 595-603, 1960.

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Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

Avis d'acceptation:

Les manuscrits seront reconnus sur réception. Les auteurs seront avisés de l'acceptation du manuscrit avant la publication. Les manuscrits refusés seront retournés.

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- **CONVENTION CHAIRMAN 1979:** Joan Voris, 3589 Osler St., Vancouver, B.C. V6H 2W5.
- **CONVENTION CHAIRMAN 1980:** Kimberley McGrail, Box 943, Bedford, N.S.
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- **INTERNATIONAL LIAISON CHAIRMAN:** Joan Voris, 3589 Osler St., Vancouver, B.C. V6H 2W5.
- **DATA BANK REPRESENTATIVE:** Pat Johnson, Oak Deane R.R. No. 2, Aurora, Ontario L4G 3G8.
- **CDA COUNCIL ON HEALTH CARE:** Iris Gold, 706-70 Whellams Lane, Winnipeg, Manitoba R2G 2G8.
- **CDA COUNCIL ON EDUCATION:** Margaret Miller, 340 Overdale St., Winnipeg, Manitoba R3J 2G4.
- **CDA COMMITTEE ON SURVEY POLICY:** Kate MacDonald, 3914 Gottingen St., Halifax, N.S. B3K 3G7.
- **CSA TECHNICAL COMMITTEE ON DENTISTRY:** Linda Berry, 1755 Bough Beeches, Mississauga, Ontario.
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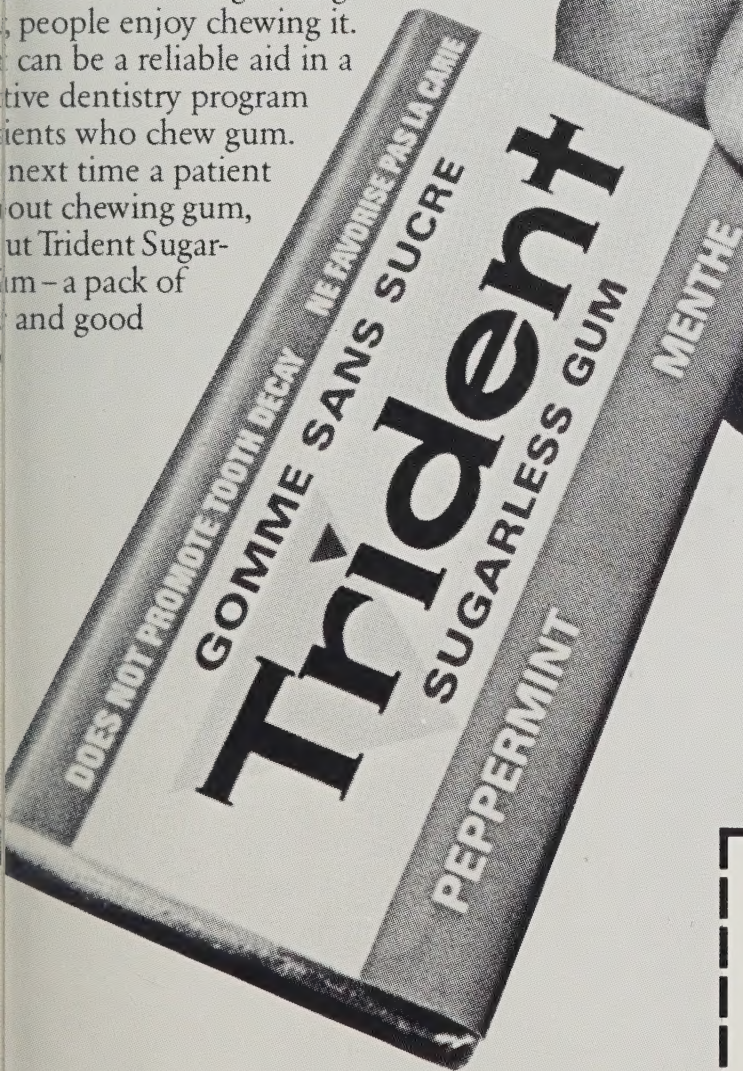
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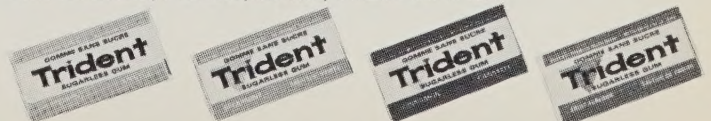
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[†]Beiswanger, B.B., et al.: J. Dent. Child. 45:137, 1978.



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

SPRING 1979 PRINTEMPS

VOLUME 13, NO. 1

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$10 per year in Canada and \$12 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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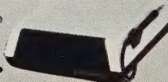
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CONTINUING EDUCATION DAY

At the fifteenth annual meeting of the Board of Directors, the Canadian Dental Hygienists' Association enthusiastically endorsed the sponsoring of a Continuing Education Day to be held regionally, provincially, and locally across Canada. Saturday, April 7, 1979, is that day. As continuing education is a major concern for CDHA, the decision to have a national Continuing Education Day should serve to spur those constituent associations who have not had such programs and encourage those already utilizing this concept.

Plans are well underway for Continuing Education Day, with most provincial associations having already formulated their agenda. Some provincial groups have provided self-study courses for members who are unable to participate. Provincial newsletters have publicized and promoted Continuing Education Day programs and courses available for Continuing Education Day are varied.

British Columbia is offering a limited enrollment clinical course titled "Patient Evaluation - What are the Possibilities?" This will be conducted by the faculty of the Program of Dental Hygiene while "packages" will be available to those in outlying areas. The northern and southern components of the Alberta Dental Hygienists' Association are working together to determine their program. Saskatchewan hygienists have workshops on pathology and pharmacology planned in both Regina and Saskatoon. Manitoba will be "Developing Preventive Programs" on April 7.

Ontario has organized all of their eleven constituencies to spend Continuing Education Day on "Office Emergencies and Dental Emergencies". For those unable to attend, prepared packages will be available from a lending library. The community dental health chairperson is busy arranging for Continuing Education Day in Quebec.

The Atlantic provinces are also planning for Continuing Education Day. New Brunswick hygienists will meet with a panel of nutritionists and also receive advice on investments. Nova Scotia plans to initiate study clubs in the

province. Prince Edward Island and Newfoundland are also planning programs.

The interest which has been generated by Continuing Education Day and the energy put into it has been encouraging and exciting. Continuing education must provide a vehicle by which practicing dental hygienists will be provided with an incentive to contribute to their future personal and professional development and evaluation by continued learning. Continuing Education Day, April 7, 1979, will provide this for all dental hygienists throughout Canada.

*Marg Miller, Chairman
CDHA Education Committee*

PUBLIC RELATIONS REPRESENTATIVES

The following individuals have been appointed as public relations representatives to be responsible for provincial coverage of Dental Health Month, Continuing Education Day and International Symposium.

National Public Relations

Coordinator: Judy Dickey
46 James St.

Aylmer, Quebec

British Columbia: Karin Sipko
7511 Bridge St.
Richmond, B.C.

Manitoba: Patti Hawthorne
70 Perry Bay
Winnipeg, Manitoba

Ontario: Debbie Van Dyk
1919 Lakeshore Rd. W.
Unit #23

Mississauga, Ontario

Quebec: Diane Couturier
180 Chabond
Montreal, Quebec

Nova Scotia: Pat Grant
3 Linden Lane
Halifax, Nova Scotia

New Brunswick: Mary Pelletier
Ste. #5, Comp. 18, R.R. #8
Moncton, New Brunswick

P.E.I.: Rosalyn Froehlich
R.R. #5
Fort Augusta, P.E.I.

Newfoundland: Cathy Dancho
62 Newfoundland Drive
St. John's, Newfoundland



EDITOR APPOINTED

The Board of Directors of the Canadian Dental Hygienists' Association is pleased to announce the appointment of Mrs. Stephanie Nagle as CDHA Editor. Stephanie studied dental hygiene at the University of Toronto, graduating in 1975, after which she was employed in private practice in the Toronto area. In 1976, she chose to continue her education and was accepted into the first year of the B.Sc. Dentistry program for dental hygienists offered by the University of Toronto. Upon graduation in 1978, she and her husband Pat moved to London, Ontario, where Stephanie accepted a position as a research assistant on a grant project supervised by Dr. D. Bunting, Associate Professor of Community Dentistry at the University of Western Ontario.

Stephanie's extracurricular activities include local community activities, tennis, swimming and gourmet cooking. Her address is:

90-760 Berkshire Drive
London, Ontario
N6J 3S5

CDHA CONSTITUTIONS AVAILABLE IN FRENCH

The French translation of the CDHA Constitution and By-laws has been completed and copies are now available upon request from:

Margaret Bailey, Chairman
CDHA Constitution Committee
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DENTAL HYGIENIST MAKES THE NEWS

Debbie Lang was one of twenty recipients of awards made by the City of Toronto on the occasion of the newspaper's first anniversary.

The best letter to the editor, entertaining and informative as The City itself seems to be, came from Debbie, a University of Toronto graduate, who took issue with a comment in the paper (May 78) that flossing was boring. "A plaque plague on you for badmouthing dental floss," she snapped. "That little thread can wipe out a million worms with a single stroke! . . . You want to know what's really boring? Cleaning the teeth of someone who doesn't use dental floss." Debbie, who spends half her days cleaning teeth, was plugged with supportive letters and comments.

Debbie is immediate past-president of the Ontario Dental Hygienists' Association, a Director of the Canadian Dental Hygienists' Association, wife and mother of two children and, as is apparent, an active and participating dental hygienist. It is always nice to see a member of our profession receive such good publicity for a worthwhile contribution - complete with a smiling picture! Let's hear about more such activities by our members.

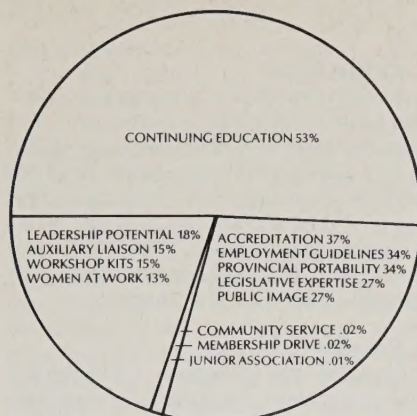
CAREER PAMPHLET PUBLISHED

A new career information pamphlet entitled "Dental Hygiene: A Career with a Future" has been published by the Canadian Dental and Dental Hygienists' Associations. A sample of the pamphlet is enclosed and additional copies may be obtained at a price of \$.08 per copy. To order, send your name, address and quantity required to:

Order Section
15 Alta Vista Drive
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Please do not enclose cheque or cash with this order form. An invoice for the full amount due will be sent to you.

RESULTS OF "ACTION BALLOT"



In 1978, the members of the Canadian Dental Hygienists' Association were asked to study a list of thirteen major goals of the association and to order them according to their relative importance. Upon completion, this "Action Ballot" was returned to the Long Range Planning Committee for evaluation. The results of the ballot indicated that continuing education is the number one priority of the membership by a substantial margin. As a direct outcome of your voting, the Executive Council and Board of Directors of C.D.H.A. have established April 7, 1979 as National Continuing Education Day. Later in the year, the 7th International Symposium On Dental Hygiene will be meeting in Vancouver, B.C. The organizing committee chose the theme "LIFE LONG LEARNING" long before the votes were in, as if in anticipation of your needs and desires. This is just the beginning as we continue to assess these needs and desires in an effort to provide more services and privileges for the membership.

DENTAL HYGIENE U. OF T. CLASS OF 6T9

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For further information, please contact either:

Gail Ellis (Morkis)
#15-17 Gibson Drive
Kitchener, Ontario
N2B 2P3
Home: 519-578-1029
Work: 519-742-8303
or
Carol Wilson
201 Burbank Drive
Willowdale, Ontario
M2K 1P5
Home: 416-226-4287
Work: 416-889-5044

JOHNSON AND JOHNSON INTERNATIONAL PREVENTIVE DENTISTRY AWARDS

A grant from the Johnson and Johnson Dental Products Company of East Windsor, New Jersey, made it possible for the FDI to establish International Preventive Dentistry Awards to encourage the development of new and innovative preventive approaches to dental health. These awards provide an opportunity for recognition of dental personnel who have researched, developed and implemented preventive dentistry projects.

A sum of \$2,000 for each award is given at intervals of three years, the first presentation being made in 1977 on the occasion of the Opening Ceremony of the 65th Annual Dental Congress in Toronto, Canada. The next awards will be presented during the 68th Annual Congress in Hamburg, 1980. Entries are now invited for the following award categories:

Community Programmes — covering: preventive approaches used for community education or public information purposes, such as primary and secondary school programmes, teaching aids, manuals, publications, research, films, clinics; programmes for special population groups — the aged, those in institutions and hospitals, the retarded and handicapped; research, public media and private practitioner's activities in the community.

Professional Education — to include: educational curricula and equipment used by the profession to learn about prevention, such as continuing education, recognized dental society meetings, curriculum changes in dental schools, research and audio-visual aids for use in continuing education or dental schools.

Research — including innovative methodologies and new research findings which will facilitate the prevention of oral disease, etc.

All entries must be received by the Executive Director of the FDI not later than 30th April, 1979. Any dental health worker (including dental and auxiliary students), with experience in the chosen field, who is interested in submitting an entry, should write at once to the Executive Director of the FDI, 64 Wimpole St., London W1M 8AL, UK, for full details as to eligibility and conditions for submission of entries for the Johnson and Johnson International Preventive Dentistry Awards.

STATISTICS ON DRUG USE

Statistics on the illegal use of narcotics and other mood-modifying drugs in Canada during 1977 were recently released by Health and Welfare Canada. The statistics are contained in tables prepared annually by the Bureau of Dangerous Drugs of the Health Protection Branch.

It is stressed that these statistics do not include all persons in Canada who might have used the drugs concerned. In fact, some information on convictions which were recorded in 1977 has been received since the statistics were published, and therefore, is not included. As has been the practice since at least 1964, information about drug users from conviction data received after publication will be included in the next year's set of statistics. In spite of this time lag, the statistics provide useful information on general trends in drug use and are of value as indicators used in health planning. The continuing tendency for some individuals to use more than one

drug makes it difficult to classify users by specific drug.

The main aspects of these statistics are:

1. Heroin Users

Known heroin use remained at about the same level as the previous year. The total number of heroin users rose slightly to 11,281 in 1977, compared to 10,848 in 1976. Convictions for heroin in 1977 were down slightly to 375 for all of Canada, compared to 438 in 1976. The number of new users decreased slightly to 372 in 1977 from 500 in 1976.

2. Cocaine

Cocaine use increased, continuing a trend apparent since 1972. Convictions increased to 336 in 1977 (up from 265 in 1976). The overall number of known users rose to 1711 in 1977 from 1346 in 1976, with new users increasing slightly to 214 in 1977 from 201 in 1976.

3. Phencyclidine (PCP)

The use of this drug increased significantly. Convictions rose to 615 in 1977 from 339 in 1976. The number of known users rose to 1821 in 1977 from 1255 in

1976, and new users rose to 113 in 1977 from 49 in 1976.

4. Other narcotic drugs

The increase in this group (known users up to 2429 in 1977 from 1815 in 1976) is explained by the diversion of narcotics such as hydrocodone, oxycodone and anileridine from the legal to the illicit market.

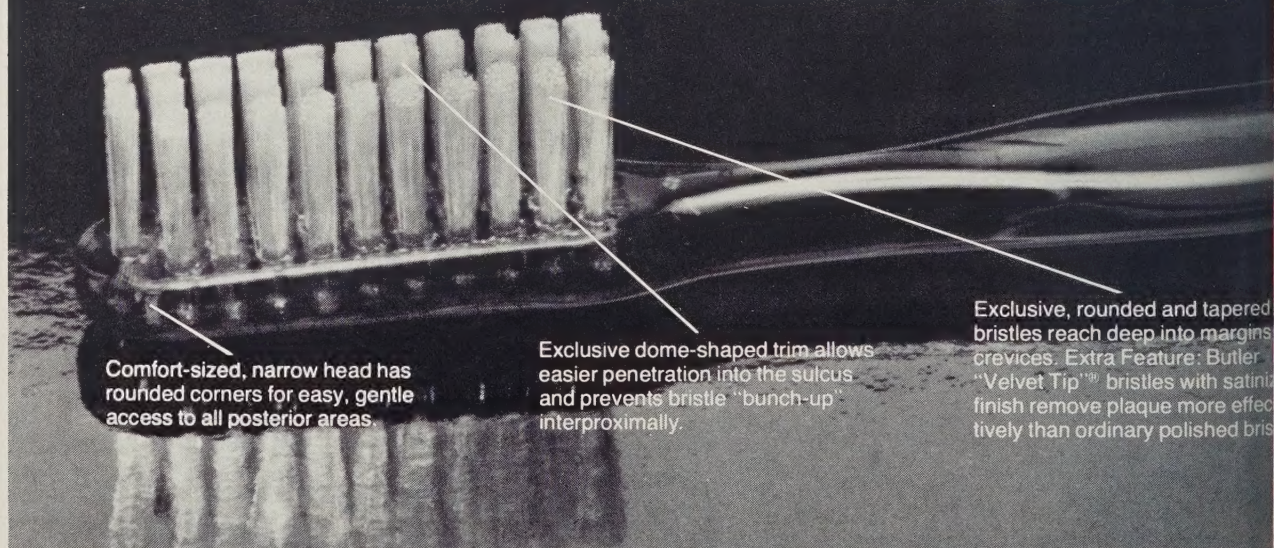
5. Cannabis

The statistics show that, once again, cannabis was by far the most widely used prohibited substance. Of a total of 39,293 convictions registered under the Narcotic Control Act for 1977, 37,812 involved cannabis. Of this 37,812, the majority of convictions (33,961) were for simple possession. Of these, 9,256 were under the age of 19.

6. Hallucinogens

There was no dramatic change in the use of hallucinogenic drugs. The total number of new users increased slightly to 1177 in 1977, up from 1016 in 1976. The number of convictions dropped slightly to 968 in 1977, from 1168 in 1976. LSD remained the most popular hallucinogen with MDA second.

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"DENTARIO DRAW"

A unique fund-raising activity organized by Helga Dettbarn has resulted in donations totalling \$566.00 for the Canadian Fund for Dental Education. The "Dentario Draw" was held during the Ontario Dental Hygienists' Association Winter Clinic and all dental hygiene contributors were eligible for the prizes. The cheques were dropped into a box and drawn during the luncheon at the Holiday Inn. The first prize winner received a large macrame plant

hanger made by Ms. Dettbarn, the second prize winner accepted a \$35.00 gift certificate for a uniform of her choice, compliments of Uniform World, and the third prize winner was given a Wooden Chef Utensil Set, compliments of John O. Butler Company.

In a letter to the CFDE, Ms. Dettbarn says, "It is hoped that this fund raising campaign will encourage dental hygienists to continue to play an active part in recognizing this Canadian organization which provides grants and bursaries not only to institutions but also to dentists and dental hygienists who are continuing their studies in the field of dental education". Ms. Dettbarn was a recipient of a CFDE fellowship in 1977 and currently is on staff in the Preventive Dentistry Department at the University of Toronto.

**7th International Symposium
on Dental Hygiene
July 25 - 28, 1979
Vancouver, B.C., Canada**

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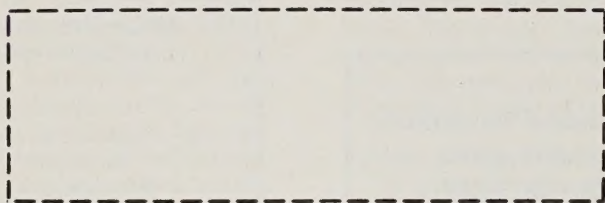
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Mail to: Jo Gardner, CDHA Membership Chairman
1125 West 54th Avenue
Vancouver, B.C. V6P 1N3

NEW PUBLICATIONS

• *A Prevention-Oriented School Based Dental Health Program: Guide lines for Implementation* is the resource book for school and community groups (including dental and dental auxiliary societies) that propose to establish school dental health programs. Separate well-organized sections explain why such programs are needed, how to assess the particular needs in a given school, how to plan the program, how to accomplish the objectives, and how to evaluate the extent to which the objectives have been met. Developed by the American Dental Association Bureau of Dental Health Education in cooperation with the American School Health Association, the guide can be ordered from the ADA Order Section, 211 E. Chicago Ave., Chicago 60611 for \$1.25. If it achieves anything close to the circulation it merits, it can be an important factor in upgrading the present and future dental health of our young people.

• The World Health Organization has recently published the report of a WHO scientific group on periodontal diseases. Entitled *Epidemiology, etiology, and prevention of periodontal diseases*, the 60-page report was prepared by internationally known experts including Dr. R.J. Genco of the State University of New York at Buffalo, and Dr. H.S. Horowitz of the National Institute of Dental Research in Bethesda. One of the conclusions reached by the committee was that future programs must take psychosocial factors into consideration because these factors can keep people from seeking and maintaining preventive care. Research is required in several essential areas, the report says, including the natural history of periodontal disease, the testing of survey procedures, and the etiology and modifying factors of the diseases. If the prevention and control of periodontal diseases are to have an adequate place in all future health programs, public dental health services must be reoriented, and more emphasis should be given to the social and behavioural

sciences in the education of dental students, the group concluded. The booklet includes a glossary of "current terminology for the human periodontium in health and disease."

• *'YOUR TEETH'* by John Chipping L.D.S., R.C.S., Eng. presents a tested concept in Dental Patient Education where all aspects of dentistry are explained in layman's terminology. This well illustrated book, 469 full colour pictures, 78 pages 12¾" x 9½" gives greater understanding of treatment and techniques used in modern dental practices. It covers the whole gamut from anatomy, plaque and its control, dental disease detection, restorations, crown and bridge, root canal treatment, gum disease, tooth-loss and the possible replacement, dentures, precision attachments, pedodontics, orthodontics, extractions, etc. This hard-cover book is supplied in a heavy-gauge clear vinyl and is most suitable for the waiting room and/or class presentation. It is of special importance, besides the dental office, to education authorities, health concerned lay persons, insurance companies and libraries. Distributed by Weil Dental Supplies (1977) Ltd., 12 Edward Street, Suite 810, Toronto Ontario M5G 1E2.

IN MEMORIAM

Marilyn Mabey, a 1964 graduate of the University of Alberta, passed away on October 22, 1978. In her career, Marilyn had experienced most aspects of the dental hygiene profession: public health, private practice, teaching and working for the government. In addition, Marilyn held a variety of association positions on both the provincial and national levels including President of the Alberta Dental Hygienists' Association, Chairman of the ADHA Licensing and Registration Committee, Co-chairman of the 1976 Convention of the Canadian Dental Hygienists' Association and CDHA Delegate. Everything that Marilyn undertook was carried through with great spirit and competence.

As a colleague and a friend, Marilyn's presence will be deeply missed. A Marilyn Mabey Memorial Award has been established to be given to the second year dental hygiene student at the University of Alberta showing the highest degree of clinical excellence. Those wishing to contribute should make cheques payable to the University of Alberta Foundation and send to Joanne Clovis, #1, 14310 - 80 Street Edmonton, Alberta T5C 1L6.

Marg Suss, President
Northern Alberta Dental
Hygienists' Society

7th INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE



"Gassy Jack" in Maple tree square in Gastown.

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For those who like to take a present home, there are lots of big department stores. Even more boutiques where you will find china, Eskimo carvings, Indian crafts and British woollens . . . and don't miss the antique shops in the old heart of this big city — GASTOWN. Dine at one of the many ethnic dining establishments. Spend an evening with the symphony, see a play or take in one of the many night clubs . . . all this while enjoying superb accommodation. That's what Vancouver is like!

CALL FOR TABLE CLINICS

One of the highlights of the Symposium will be the table clinic presentations which are scheduled for Friday afternoon, July 27th, at the University of British Columbia Faculty of Dentistry. This aspect of the scientific program is being planned to provide participants with information relating to the various aspects of dental and dental auxiliary practice in Canada.

To this end, Canadian clinicians are invited to get involved and to share their knowledge and expertise with colleagues from around the world. Suggested subject areas include but are not limited to:

- DENTAL HEALTH EDUCATION
- CLINICAL DENTAL HYGIENE PRACTICE
- COMMUNITY DENTISTRY
- INTERPERSONAL COMMUNICATION
- PROFESSIONAL AFFAIRS

Dental hygienists interested in participating are asked to submit an outline of their table clinic presentation including the following information: Clinician's name, title of clinic, summary of presentation, and use of visuals and audio-visuals.

DEADLINE FOR RECEIPT OF SUBMISSIONS IS MARCH 31, 1979. Please send to:

Table Clinic Program
7TH INTERNATIONAL SYMPOSIUM
ON DENTAL HYGIENE
c/o Venue West Ltd.
#1704 - 1200 Alberni Street
Vancouver, B.C., Canada V6E 1A6

JULY 25 TO 28, 1979, VANCOUVER, B.C., CANADA

PLAN NOW TO PARTICIPATE IN THE ACCUMULATION OF KNOWLEDGE AND TO ENJOY THE HOSPITALITY OF THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION.

REGISTRATION FORM

7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

JULY 25 TO 28, 1979, VANCOUVER, CANADA



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Name ☐ Mrs. _____
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☐ Dr. _____
Address _____
_____ Street _____
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HOTEL ACCOMMODATION

The headquarters for the Symposium and the majority of the scientific program will be at the HYATT REGENCY HOTEL in downtown Vancouver. Rooms will be available to participants at a special convention rate provided that reservations are made through Venue West Ltd. prior to **May 31st, 1979.**

Single or Twin: \$40.00.

Suite rates will be provided upon request. All rates subject to a 5 percent tax.

Accommodation will be on a first come first served basis. Reservations will be held until 6:00 p.m. on the date requested unless guaranteed by a deposit of one night's accommodation.

Please check appropriate box. I require:

- ☐ Single
☐ Twin (I will be sharing with _____)
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TOURS

I am interested in receiving more information on the following tours:

- ☐ Canadian Rockies ☐ Victoria (one day)
☐ Victoria/Vancouver ☐ Alaska Cruise
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TRAVEL ARRANGEMENTS

Arrival _____
Date Time

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Date Time

If you are travelling by air, please indicate which airline: _____

SYMPOSIUM REGISTRATION

Participant with professional (dental-ly-related) association affiliation

.....	\$ 80.00	\$ _____
Non-member participant....	\$100.00	\$ _____
Spouse	\$ 20.00	\$ _____
Student	\$ 20.00	\$ _____
TOTAL		\$ _____

DEADLINE FOR REGISTRATION IS MAY 31ST, 1979, after which a late registration fee of \$25.00 will be charged. Cancellations received before July 1st, 1979, entitle registrants to a full refund. Cancellations after that date will be subject to a \$20.00 charge.

Continuing education credits will be assigned to the scientific portion of the Symposium program.

Please make your cheque or money order payable to the 7TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE, enclose with this form and send to:

**7TH INTERNATIONAL SYMPOSIUM
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SELF-ASSESSMENT TEST

The Board of Directors of the Canadian Dental Hygienists' Association has selected continuing education as the number one priority for the coming year and is currently exploring alternate venues of learning. To this end, the self-assessment tests initiated in 1977 are being continued. The 1979 series will focus on different areas of knowledge relating to dental hygiene practice, the first of which is emergency procedures.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 24 for the correct answers.

The universal distress signal characterizing an apparent obstructed airway in a conscious adult is
 a. rapid heavy breathing
 b. violent choking
 c. victim's hand at his throat
 d. violent thrashing of the victim's arms.

The proper rate of rescue breathing for the child is
 a. 4 times per minute
 b. 12 times per minute
 c. 20 times per minute
 d. 30 times per minute

The injectable drug of choice for an allergic reaction is
 a. epinephrine
 b. diazepam
 c. levallorphan
 d. methoxamine

Probably the most important drug in the dental emergency kit is
 a. aromatic ammonia
 b. oxygen
 c. nitroglycerine
 d. isoproterenol

During syncope, a patient's
 a. blood pressure increases and heart rate decreases
 b. blood pressure decreases and heart rate increases
 c. blood pressure and heart rate increase
 d. blood pressure and heart rate decrease

6. The clinical manifestations of allergy related to topical anesthetic application include all of the following except
 a. cyanosis
 b. erythema
 c. edema
 d. ulcerations
7. Management of the hyperventilation syndrome includes placement of the victim in the
 a. supine position
 b. upright sitting position
 c. semiprone position
 d. recumbent position
8. The drugs most commonly involved in allergic reactions are
 a. tetracyclines
 b. erythromycins
 c. sulphonamides
 d. penicillins
9. Breath with fruity odor, dry mouth, thirst and lack of appetite are characteristic of
 a. hypoglycemia
 b. hyperinsulinism
 c. ketoacidosis
 d. angina pectoris
10. Basic life support consists of
 a. recognizing cardiac arrest and applying external cardiac compression and artificial respiration
 b. recognizing cardiac arrest and applying external cardiac compression
 c. applying external cardiac compression with adjunct equipment
 d. applying external cardiac compression and artificial ventilation with adjunct equipment

Suggested References:

Canadian Heart Foundation. *Cardiopulmonary Resuscitation (CPR), Part 1: Recommended Standards for Basic Life Support*. Ottawa: Canadian Heart Foundation, 1977.

Malamed, S.F. *Handbook of Medical Emergencies in the Dental Office*. Saint Louis: Mosby, 1978.

Bennett, C.R. *Monheim's Local Anesthesia and Pain Control in Dental Practice*. Saint Louis: Mosby, 1978.

Marjorie Dimitri, R.D.H., M.Ed.
 Joan Voris, R.D.H., B.S.

CDHA GUIDELINES ON CONTINUING EDUCATION*

Continuing education in the profession of dental hygiene is education of the individual beyond basic preparation for dental hygiene practice. It includes educational activities that update, refresh and increase the knowledge and competency of the dental hygienist.

Purpose of Continuing Education

The primary purpose of continuing education for dental hygienists is to improve health care for patients by improving and increasing the ability of the dental hygienists to deliver the highest possible quality of dental hygiene care. Continuing education should expand and enrich basic dental hygiene education and make possible the acquisition of skills and knowledge required to maintain competence and improvement of dental hygiene practice.

Types of Continuing Education

In its broadest sense, continuing education encompasses all learning that may improve dental hygiene practice after basic dental hygiene education. It encompasses both independent learning and participation in formal courses of instruction.

Independent study should not be neglected as an important aspect of continuing education. This area ranges from incidental learning in the course of dental hygiene practice, reading appropriate journals, consultation with peers, dentists and specialists, to self-organized independent study programs.

Formal continuing education may also be conducted in a variety of formats. Among these are cassette tapes, individual study manuals, lectures, workshops, television presentations, conventions, study clubs and clinical courses. Typically, continuing education programs are part time and of short duration. They are not part of a system of earning credits toward a degree or diploma.

Responsibility for Continuing Education

Participation in continuing education is the responsibility and obligation of each individual

dental hygienist. While continuing education in itself does not ensure continued competence, such competence is not possible without it.

Role of Canadian Dental Hygienists' Association

The national organization representing dental hygienists has the responsibility to be an active proponent of continuing education and to facilitate continuing education for its members in any way feasible. These include but are not limited to the publication of the journal, educational activities at national meetings, and the development of resource personnel to assist with the development of continuing education programs.

Role of Constituent Associations and Component Societies

Constituent associations and component societies should be active sponsors of continuing education programs for dental hygienists. They should establish continuing education committees to ascertain needs and organize educational programs to meet those needs. They may function as independent sponsors of programs and/or work in co-operation with other sponsoring agencies such as dental associations, associations of other health professionals, community health agencies, faculties of dentistry and programs of dental hygiene. Constituent associations and component societies have a responsibility to ensure dental hygiene continuing education to those practicing in remote areas.

Role of Programs of Dental Hygiene

Programs of dental hygiene should recognize a responsibility (within the limits of their resources) to provide continuing education to their own graduates and all other dental hygiene practitioners. They should work co-operatively with local, provincial, and national dental hygiene continuing education committees to provide programs suited to the needs of dental hygienists. In particular, programs of dental hygiene should be in a position to provide refresher programs for hygienists who

ave not been in practice for a period of time, and to provide courses dealing with recent developments in dental hygiene clinical skills and related social and basic science knowledge. Programs of dental hygiene should stimulate the students to undertake a commitment to lifelong learning.

Sponsorship

The sponsoring agency of a continuing education program is that organization assuming responsibility for organizing, administering, publicizing and presenting the program. As such, it assumes fiscal liability for the program and responsibility for the conduct and quality of the program. Faculties of dentistry, programs of dental hygiene, component and constituent societies of the Canadian Dental Hygienists' Association and the Canadian Dental Association are examples of suitable sponsoring agencies. Individuals or groups organized primarily for profit should be discouraged from acting as sponsors.

Administration

Continuing education should be administered by a responsible person with the respect and support of the sponsoring agency. The goal of program administration is a continuing education program of high quality which meets the needs of the profession. Careful advance planning and opportunity for input by teaching staff and the client group should be provided. The sponsoring agency should insure that clinical procedures demonstrated or performed by faculty or participants are generally acceptable and professionally ethical.

Continuing education programs should be publicized in a manner that is informative and not misleading. In program brochures, educational objectives, teaching methods and methods of evaluation should be described. Publicity should indicate the qualifications of the continuing education faculty providing the particular course or program. Where courses are sequential or require specific educational prerequisites, this information should be included.

Faculty

Lecturers or clinicians should have expertise in the areas being taught and should also have knowledge in educational methodology. The dental hygiene profession should draw from current dental and dental hygiene faculty, and should also consider fostering and developing the teaching skills of its members. Clinical programs should ensure an adequate number of instructors.

Lecturers and clinicians may be obtained from many sources including: colleges and universities; faculties of dentistry and programs of dental hygiene; dental and dental hygiene societies; private practitioners; and related health organi-

zations such as the Canadian Heart Association, Medical Association, Nursing Association, Dietetic Association and Public Health Association.

Facilities

Adequate facilities are essential for an effective continuing education program, particularly when clinical courses are conducted. Facilities selected should be appropriate for the kind of educational methodology being employed.

Educational Methodology

Continuing education should be educationally sound and in keeping with current knowledge of educational methods and principles.

Needs Assessment: Continuing education programs should relate to the needs of the client group. Needs assessment can be determined in a variety of ways:

1. Use of reliable indices for measuring the level of oral hygiene, periodontal disease, dental disease, etc.
2. Use of a questionnaire to measure knowledge and/or attitudes.
3. Observation of the client group in order to assess influencing factors such as health practices, environment, dietary habits, etc.
4. Discussion with leaders and/or members of the client group in order to determine felt needs.

Behavioural Objectives: Program objectives should be stated as behavioural objectives. A behavioural objective describes what the learner will be doing to demonstrate achievement/competency of instructional intent. Clearly written objectives allow both instructor and learner to know what must be accomplished.

Types of behavioural objectives suitable for dental hygiene continuing education programs include:

1. Demonstrate mastery of current knowledge.
2. Demonstrate new knowledge in specific areas.
3. Demonstrate mastery of specific skills and techniques.
4. Demonstrate a change in attitude and approach to the solution of dental problems.

Appropriate demonstration may include listing, defining, clinically demonstrating, discussing, analyzing, evaluating, etc.

Methods of Instruction: The appropriate methods of instruction will be determined by the behavioural objectives of the continuing education program. For example, if the behavioural objective is to demonstrate clinical competence in a particular skill, part of the instructional method must involve clinical practice.

Program planners and instructors should be knowledgeable in the wide variety of instructional techniques available including lecture, slide-tape, modules for individual self-instruction, closed and open circuit T.V., film, etc. Many of these techni-

ques are suitable in providing to hygienists in remote outlying areas, access to continuing education.

Evaluation: Evaluation of continuing education programs is necessary in that it provides 1) evaluation of participants' achievement of objectives and 2) evaluation of the program itself. Both types of evaluation should be determined in the planning stages of program development and not be left to determine after the program has been conducted. Without an initial statement of specific objectives for each program, it is difficult, if not impossible, to ascertain in any meaningful way that such objectives have been met. The appropriate method of evaluation will be determined by the statement of behavioural objectives for the program.

Stimulating Interest in Continuing Education

Continuing education programs should be planned well in advance, taking into consideration

access and ease of travel, geographic location and cost. Scheduling should also be considered as time lost from work may mean a financial loss. A course over weekends may be more appealing than a week long course or several evenings may be more convenient than a weekend. A continuing education program may be planned to coincide with the meeting of other health professionals, for example dental associations. Publicity should include complete information and occur well in advance to allow participants to make the necessary arrangements to attend. Above all, in dental hygiene continuing education programs, the opportunity to involve hygienists and/or the client group in the planning of programs should be considered.

**These Guidelines were approved by the CDHA Board of Directors at the 1978 Annual Meeting.*

NATIONWIDE

INTERPERSONAL COMMUNICATIONS AND DENTISTRY

Interpersonal communications are more important than ever before. To be successful as a person, a wife/husband, a parent, or a member of the dental health team, one must communicate with other people.

Why has there been an upsurge of interest in interpersonal communications? One reason is that authority roles have changed. In the past, traditional authoritarian management illustrated by the employer at the office with staff and patients, the head of the family with the spouse, and the parent with the child, was accepted by society. Today, however, group participation in decision-making is expected and encouraged in most situations.

Another event which has stimulated interest in interpersonal communications in the dental environment is that patients are demanding a more satisfying working relationship with the dentist and his or her auxiliaries. Patients expect a full explanation of procedures including the why, where, how, cost, options, and probable consequences of each option.¹ Based on a review of the facts, adult patients are then capable of making their own decisions. Patients have always wanted to be treated as people and are seeking dental offices where they, along with their concerns and needs, will be

listened to and treated with compassion.

The Parent Effectiveness Training (P.E.T.) philosophy has swept the North American continent in the last nine years.² P.E.T. improves the quality of the parent-child relationship by emphasizing the right of the parent to be himself and the right of the child to be himself. It identifies roadblocks to communication and teaches the parent to be an effective listener. Parents learn to express their real feelings, the "I" messages, and to develop methods of resolving conflict such that neither the parent nor the child loses. The concepts presented to improve family relationships apply to other roles in life as well.

It is of the utmost importance to understand the predictable crises in adult life, the different life cycles and how we can identify and make changes in our lifestyles if we so desire.³ More and more people are discarding old roles that they are not happy with. Hopefully, this transition is being made with as little disruption to themselves and others as possible.

Increasing numbers of women are participating in management at the office and at home. Guides on how to manage effectively are valuable tools for women who have often not been groomed for such roles.⁴ A manual entitled *The Managerial Women*⁵ tells us to stop waiting to be discovered, invited, persuaded, asked to accept a promotion and to start acting. It instructs us to let people know what we want and what we are prepared to do to get it. In addition, the author encourages us to ask questions about job opportunities, to offer to learn new skills, and to request extra assignments.

Further, we are advised to set priorities which will help to resolve the basic conflicts between a woman's ability to build a successful career and to be a successful wife, girl friend and/or mother.

Stress is another aspect of modern living. Learning to use stress as a positive force to achieve a rewarding lifestyle is essential for a healthy life.⁶

One can improve the effectiveness of interpersonal relationships by personal reflection and appraisal, by taking courses offered both within the sphere of dentistry and at educational institutions, and by home reading. Ultimately, the development and continuous improvement of such communication skills will benefit and enrich both professional careers and personal lives.

Life is for the living... to the healthy, happy full!

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Sharon B. French
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HYPNOSIS IN DENTISTRY

SUSAN JOHNSON, B.Sc.

S. Johnson is in the second year class of the program of Dental Hygiene at the University of British Columbia.

Since ancient times, hypnosis has been regarded as a medium for the supernatural. Its association with magic and mysticism still surrounds it and this shroud often makes people doubt its relevance in the treatment of medical and dental conditions. Today, however, many health professionals are convinced that the use of hypnosis in patient treatment is invaluable.

Hypnosis can mean many different things to different people but the general agreement of its definition is that hypnosis is a state of mind induced upon one person by another in which suggestions are readily accepted because the power of criticism has been suppressed.¹ It has been postulated that criticism and rejection are done by logical selection which is a function of the conscious mind. During hypnosis the conscious mind becomes fixed and is dissociated from the subconscious segment which then surfaces, becoming dominant.² The ability of subjects to be affected by suggestion is a measure of their susceptibility to hypnosis. Since the word "susceptibility" denotes weakness, many hypnotists prefer the terms "hypnotizability" or hypnotic responsiveness".²

Induction is the process of putting someone in a trance, or the hypnotic state. To successfully accomplish this the subject must have a positive attitude towards hypnosis plus a willingness to be induced. This expectant frame of mind is termed "mind-set". For a subject to have mind-set depends on the "prestige" of the operator. This refers to the opinion the subject has of the hypnotist and necessarily involves a certain amount of respect and esteem. Mind-set of the subject and the prestige of the operator together create "rapport" between the two. Rapport is essential in hypnosis because the patient must be able to trust the hypnotist and feel relaxed in the clinical environment.³

It has been estimated that about 90% of the population can be hypnotized to some extent.² While the gender of the patient makes no difference there is variation with regard to age. Children seem to be the best subjects,⁴ the peak susceptibility being between ages 9 to 12.² People in the armed forces, nurses, and actors often prove to be good subjects because they accept instructions readily due to their training.⁵ Analytical people tend to make poor subjects while those capable of sustained imaginative experiences make excellent subjects.²

The state of hypnosis can be divided into three levels: light trance, medium trance, and deep trance.⁵ In the light trance state, which applies to 90% of the population, anxiety and fear can be diminished considerably. The medium-depth trance can be achieved by 70% of these people and they will exhibit much more relaxation. In this state there is usually sufficient analgesia to permit most conservative dental work. Twenty per cent of those able to be put into light trances can be further induced into deep trances. This level allows almost complete analgesia and somnambulism.^{5,6} Light and medium-depth trances are the levels of hypnosis most often employed in dentistry. Deep trance hypnosis is usually the realm of medical practitioners, especially those specializing in psychiatric conditions.

The clinical use of hypnosis can be considered as an explorative and interpretative medium, or a means of symptom removal.² It is the latter application that holds the most importance in dentistry. Hypnosis can be used for many reasons by the dental profession but its main uses involve: patient relaxation; elimination of fear and anxiety; analgesia; prevention of fainting, gagging, excess salivation, and bleeding; and tolerance of appliances.⁶

Since many people are still afraid of dental procedures it could be advantageous to the dentist to become familiar with hypnosis, if only to reduce the level of fear in his or her patients. Unfortunately, most dentists have some misconceptions about hypnosis. The more common ones are that it is too difficult to learn, not enough patients would

be susceptible, and most importantly, there is not enough time to "waste" in a high-volume practise.

Hypnosis is not difficult to master for most operators having sufficient self-confidence and ability to establish rapport with patients. Training is offered by many recognized teaching institutions and professional associations and is geared toward therapeutic use. As was mentioned previously, most people are susceptible to some degree of hypnosis. This leaves the time factor as the chief hold-back for use in dentistry.

A dentist considering hypnosis on a patient should first gather a detailed history that will expose any potential problems with regards to emotional stability. An emotionally disturbed patient should not be treated with hypnosis by anyone except a qualified psychiatric specialist.⁷ Next, the patient should be tested to determine his or her hypnotic responsivity. Obviously, someone who proves to be totally unsusceptible to hypnosis would not make a good subject. There are several different tests that are done in specific time allotments and the responses made determine the hypnotizability of that person.² For example, the suggestion is made that the patient's arm is getting lighter and is becoming so light as to actually float upwards. If the patient's arm does begin to move up, this would be a positive response. This is called the "arm levitation" test and there are many others similar to it.³

To combat the time "wasted" in performing the specific tests, it has been suggested that susceptibility be tested during routine prophylactic procedures. Since such procedures are introduced to a patient early in his or her dental life and are usually non-threatening in nature, they can be used to suggest to the already relaxed patient that the vibration of the handpiece may cause a tickling sensation. If the patient is observed to laugh and giggle during treatment it can be interpreted as a positive response.⁸ By testing susceptibility in this manner the operator need not feel that valuable office time has been used ineffectively.

Once the patient has been determined as a good subject, he or she can be induced into the hypnotic or sleep state. During this whole procedure it is vital that the operator speak confidently in order to maintain the patient's trust and to enforce the acceptance of suggestions. If any doubt is detected by the patient it may activate the patient's ability to question and ultimately reject any suggestions. Terminology is also extremely important and should include non-anxiety words such as "tingling" in place of "uncomfortable", or "unusual" in place of "painful". All suggestions must be given to the patient in terms they will understand. This is where knowledge of the patient's background is essential.

There are many ways to induce the sleep state. One of the more commonly used methods

involves having patients concentrate on an object held just far enough out of their line of vision so that they experience eyestrain. As their eyes tire from focussing, the operator suggests that they are getting drowsy — so drowsy that their eyelids feel heavy and will want to close. Thus the suggestion of sleepiness and total relaxation is made and the patient should respond accordingly. Once in the trance the operator can attempt to deepen the sleep if necessary or can begin making suggestions appropriate to the situation. Many dentists make use of the "transference" theory in which the patient is told his hand is becoming cold and numb. When it is sufficiently so, the patient will place his hand over the area in his mouth where the dental work is to be done. The numbness then leaves the hand and is transferred to the gums, cheek, tooth, and bone. Once analgesia is in the desired area the treatment can begin.³

When treatment is done and the patient is still in the trance, suggestions can be made regarding post-operative responses to ensure an uneventful recovery. At this time suggestions can be offered about future appointments in order to eliminate anxiety and fear. In the interest of time conservation it can also be suggested that whenever the patient is seated in the dental chair he will be able to be put into the trance state when given a pre-arranged signal.⁷ These post-hypnotic suggestions play a major role in dental hypnosis. It has been found that those suggestions carrying more significance should be given at the end of the hypnotic state because they are best retained and acted on by the patient.²

Awakening patients is done by a series of signals such as counting backwards, in which each signal is able to make them more successively alert. By a certain signal or number, they should be fully awake and normal in every respect, feeling refreshed and comfortable. There should be no discussion of the post-hypnotic suggestions at this time. Instead, patients should be complimented on their behaviour and asked how they feel. When dismissed they should have a positive, satisfied outlook.³

The degree of hypnosis achieved by the patient will determine the type of dental work to be done. Patients capable of deep trances can have extensive treatment, even surgery, performed successfully on them. Those attaining medium-depth trances can easily receive most commonplace dental work. Patients in light trances are often sufficiently at ease that even those previously apprehensive are receptive to treatment and can readily accept local anesthesia. In fact, fear of the hypodermic needle is one of the major reasons that people dread dentists and develop phobias.⁵ In this respect hypnosis has been a great boon because it can be responsible for alleviating this fear.

Dental hypnosis has great potential for the treatment of many patients for a wide variety of reasons. Relief from anxiety is by far one of the greatest applications and this alone justifies the role of hypnosis.

The limitations of hypnosis hinge on its misuse or abuse. Dental practitioners must realize that hypnosis should be used strictly as an adjunct in the overall treatment plan and that it should only be employed by professionals capable of doing the same treatment without the benefit of hypnosis.⁹ Dentists should also confine their use of hypnosis strictly to dentistry and never attempt to use it to treat any symptom or condition out of their professional jurisdiction in case symptoms of some serious non-dental condition are masked. By the same token they must be absolutely discreet and refrain from using their skills as any means of entertainment. With respect to time as being a limitation, hypnosis should be considered an investment. The initial input may be somewhat time-consuming but the "dividends" pay for

themselves with each subsequent visit and what more could any preventive-minded dentist ask for?

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LETTER TO THE EDITOR

Dental Hygiene Education

A recent article in **The Canadian Dental Hygienist** by Dimitri and Voris¹ refers to the history of the development of expanded function programs for hygienists in Canada. The statement is made in their article: "the first program of this type was conducted in 1969 by the Prince Edward Island Dental Manpower Study in which dental hygienists were trained to complete the post-tooth cutting portion of restorative procedures". In this respect, reference is made to an article by Romcke and Lewis.²

I feel the above requires clarification for as it is stated in the Romcke and Lewis article, their study "was patterned on the Canadian Armed Forces studies". The latter were initiated nine years previous to the P.E.I. study.

Studies on the employment of expanded functions hygienists were carried out by the Royal Canadian Dental Corps School (now the Canadian Forces Dental Service School) from 1960 to 1965. Since that time, courses have been continually conducted for the training of hygienists in these expanded functions at our School. The original RCDC studies³ are well documented in the dental literature.

We take great pride in our pioneering role, in North America, in developing expanded duty programs for hygienists and would be appreciative if this error can be brought to your readers' attention.

James N. Wright CD, DDS, MscD, FICD
Colonel Commandant

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CALENDAR OF EVENTS

Third Canadian Congress of Dentistry for Children, Vancouver, April 6-8, 1979. Contact: Dr. G. M. Jinks, Suite 301, 1701 West Broadway, Vancouver, British Columbia V6J 1Y3.

Ontario Dental Association, 112th Spring Meeting, Sheraton Centre, Toronto, May 13-16, 1979. Contact: Mrs. W. C. Durham, 234 St. George Street, Toronto, Ontario M5R 2P2.

Les Journées Dentaires du Québec, Queen Elizabeth Hotel, Montreal, May 27-31, 1979. Contact: Dr. Morton R. Lang, 5253 Decarie Blvd., Montreal, Quebec H3W 3C3. Telephone: (514) 481-0397.

British Columbia College of Dental Surgeons 1979 Convention, Hotel Vancouver, June 5-8, 1979. Contact: College of Dental Surgeons of British Columbia, 1125 West Eighth Avenue, Vancouver, British Columbia V6H 3N4.

Western Canada Dental Society Convention, Hotel Saskatchewan, Regina, June 7-9, 1979. Contact: Dr. T. E. Donavon, 205 McCallum Hill Building, Regina, Saskatchewan S4P 2G6.

Alberta Dental Association, Annual Convention, Red Deer, Alberta, June 7-9, 1979. Contact: Dr. Ron Gish, Lacombe, Alberta.

7th International Symposium on Dental Hygiene, Vancouver, British Columbia, July 25-28, 1979. Contact: 7th International Symposium on Dental Hygiene, c/o Venue West Ltd., 1704-1200 Alberni Street, Vancouver, British Columbia V6E 1A6.

INFECTION CONTROL IN THE DENTAL OFFICE

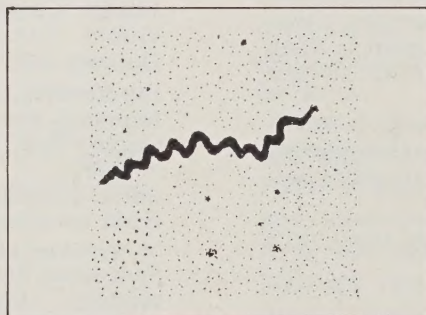
PREPARED BY THE
COUNCIL ON DENTAL MATERIALS AND DEVICES
AND THE COUNCIL ON DENTAL THERAPEUTICS
OF THE AMERICAN DENTAL ASSOCIATION

Certain features of dental practice may potentially contribute to the transmission of infections through the dental office. Dentists and their staffs may see large numbers of patients, operatories are used repeatedly during a typical practice day, dental personnel may be moving from one patient to another during various stages of treatment, and certain office equipment, instruments, or work surfaces cannot be sterilized and may be difficult to disinfect in a short period of time. The relationship of these features of dental practice to actual transmission of disease has not been completely evaluated. However, members of the profession as well as the lay public have recently expressed an interest in this potential problem of dental practice. Therefore, in an effort to assist dentists in evaluating all aspects of their practices that have potentials for contributing to the transmission of infection, the Council on Dental Materials and Devices and the Council on Dental Therapeutics have prepared this report to the profession. The function of this report is to point out those dentists who are at greater risk of contracting disease, alert the dentist to high-risk patients, highlight those aspects of practice that may be a risk to dental personnel and patients, and suggest procedures that may reduce these risks.

Dentists engaged in private practice may average 3,500 patients visits each year.¹ This large volume work load and exposure to the oral cavity by dental personnel increases the probability of exposure to pathogenic microorganisms.

Currently, there is little epidemiologic data showing the relationship of rates of microbial infection of the private practitioner to the general public. However, surveys of general dentists have shown that 13.6% have previous

exposure to hepatitis B and that their serums remain positive for the antigen or antibody.² When compared to the frequency of 2% to 5% in the general population, it is apparent that dentists are at higher risk of acquiring hepatitis B. The frequency of other, apparently practice-related infectious diseases among dentists is not as clearly defined as it is for hepatitis B. However, estimates of incidence of disease and reports of case histories are frequently cited in the dental literature. For example, case histories of dentists who have acquired herpetic paronychia (herpetic whitlow) from contact with salivary herpes simplex virus have been reported.³⁻⁶ These lesions are often extremely painful and debilitating and can be recurrent. Another serious lesion of the hand and fingers reported among dentists and hygienists is syphilitic paronychia. It is estimated that the incidence of accidentally acquired syphilis is higher in dentists than in any other professional group.⁷



During certain times of the year and in practices that treat certain types of patients, the potential for exposure increases. Exposure to respiratory viruses, for example, may be higher during those months when the incidence of colds and flu is high in the general population, and practices with a large percentage of children as patients

may see a particularly large number of patients with upper respiratory tract infections. Dental personnel in certain practice settings, such as hospital clinics and institutional practices, may see patients who are known to have a high incidence of certain diseases. For example, institutionalized mental patients, percutaneous drug abusers, hemophiliacs, and patients on renal dialysis are known to have a high incidence of hepatitis B viral infections.⁸

Hospital clinics and institutional practices might also have patients more susceptible to infection from microorganisms not normally pathogenic. Debilitated and immunosuppressed patients, for example, are particularly susceptible to *Pseudomonas aeruginosa*.⁹

Dental personnel in certain specialty practices may be at greater risk of contracting a disease. Surveys have shown that dentists in specialty groups who have greater exposure to blood and tissue fluid in their practices show a higher incidence of serologic evidence of type B hepatitis. Published reports indicate that oral surgeons have a high risk of acquiring hepatitis B.^{2, 8} In a survey of 650 oral surgeons, it was found that 2.3% were presumed carriers (serum was positive on a single occasion for hepatitis B surface antigen [HBsAg]); 27% showed humoral immunity (serum was positive for type B antibodies); and 13% had an incidence of overt hepatitis during their active professional life.[†]

Data on other dental specialty groups are being accumulated, but currently there is insufficient data available to estimate the prevalence of type B hepatitis in other specialties.

The prevalence of serum that is positive for type B antibodies among oral surgeons, 27%, is equivalent to that found in surgeons and pathologists

those exposure to blood and tissue fluids is also extensive. The distribution of antibodies in surgeons, 28%, and pathologists, 27%, is the highest among physicians reported in a limited survey.¹⁰

Dental procedures that require powered instruments, such as prophylaxis angles, high-speed handpieces, or ultrasonic scalers, create an aerosol and splatter of saliva and blood. The aerosol and splatter has been shown to contain aerobic bacteria and likely contain aerobic bacteria and smaller particles, such as viruses.^{11, 12} Clothing, surfaces, equipment, and cabinet surfaces are exposed to the aerosol and splatter created by dental procedures and are subject to contamination.

Some evidence is available that indicates that the dental aerosol may not be directly implicated in the transmission of all viral infections as previously thought. In a preliminary air-sampling study, detectable levels of HBsAg, known to be present in the blood and saliva of patients, were not found in samples of air containing saliva aerosolized by prophylaxis angles or high-speed handpieces. This suggests that environmentally mediated transmission of hepatitis B in the dental setting is more likely to occur through contact with contaminated surfaces than via the airborne route.¹³

Dentists or dental personnel may accidentally be exposed to blood or saliva that is positive for HBsAg in spite of attempts to maintain good office hygiene. If exposure should occur by needle stick, direct contact with mucous membranes, or oral ingestion, treatment with human hepatitis B immune globulin is available. Immediate referral to a physician is recommended if exposure is known to have occurred.

Spore-forming bacteria and some viruses remain inert on surfaces for long periods of time and become active when the appropriate host or host conditions are present. Therefore, efforts to maintain good hygiene are strongly advised.

Microorganisms have been detected in waterlines of equipment.¹⁴⁻²⁰ Apparently, there are two possible sources of contamination, normally occurring aquatic types of bacteria and microorganisms found in saliva. Both sources of contamination have been hypothesized mainly because of the types and numbers of microorganisms found in waterlines.

For water to be considered potable, it should not have more than 100 colony-forming units/ml.¹⁴ The water in most public water systems is probably within this limit. However, when water stagnates for long periods of time, the chlorine becomes ineffective in stopping proliferation of organisms. This

probably occurs in the waterlines of both the dental office and buildings that are not used 24 hours a day. Although such organisms would not be likely to affect a healthy patient under normal conditions, patients could be affected if they were debilitated, compromised, or undergoing surgical procedures in which the water spray was used.²⁰

Many dental units contain water retraction valves that create a negative pressure in the waterline to prevent drippage of water when the foot pedal is released. These valves may draw water back into the line for a distance. If this occurs intraorally, it is possible to aspirate microorganisms that are borne by saliva into the waterlines. The organisms could then be passed to the next patient. Cross-contamination problems would seem to be more significant in situations in which the patients have infections, such as upper respiratory infections, hepatitis, or tuberculosis.

Although the relationship of contamination of the dental operator by aerosols, splatter, and water to transmission of disease is not clear, it seems logical that cross-contamination of dental patients and personnel by these means could occur.

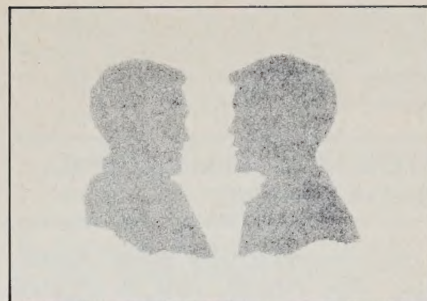
The prevalence of hepatitis B virus infection among dental personnel apparently results from patient-to-dentist transmission of the disease. There is also evidence of dentist-to-patient transmission of hepatitis B, but there is no evidence that the transmission of the disease from one patient to another occurs through aerosol, splatter, or waterline contamination.

There are problems with accumulating adequate epidemiologic data. Documentation of systemic cross-infections among dental patients is not ordinarily sought. Patients seldom report systemic illnesses to their dentists after the first examination and history have been taken. The population of dental patients is highly mobile with a diffuse distribution. The long incubation periods of tuberculosis and hepatitis B also make documentation of these infections difficult.

The opportunity for cross-contamination and infection of patients may be present, but with good office hygiene practices and maximum precautions to prevent the transmission of the disease, the potential risk can be kept to a minimum. The following procedures are practical methods for reducing contamination and, therefore, cross-contamination in the dental office. These suggestions can be accomplished with current knowledge, equipment, and technology.

A CAREFUL MEDICAL HISTORY

Before any clinical examination or treatment, a complete history should be



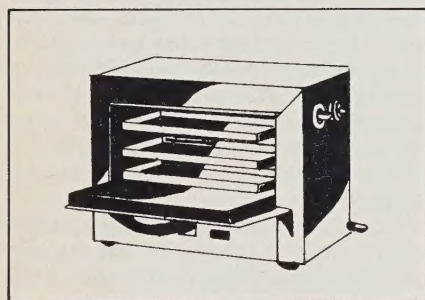
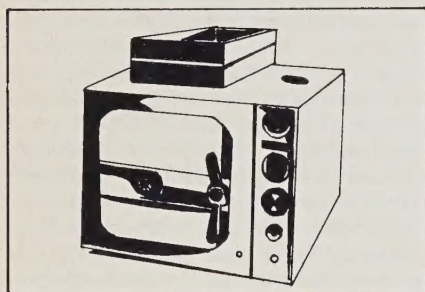
taken to determine the current medical status of the patient. Special attention should be given to indications that the patient may have pharyngitis, syphilis, tuberculosis, or hepatitis. Some patients are known to have a high incidence of hepatitis B. These include those undergoing chronic dialysis for renal disease; those institutionalized for mental retardation, especially Down syndrome; those with malignancies treated with frequent transfusions and immunosuppressive drugs; those who receive blood and blood derivatives in large volumes, such as hemophiliacs; percutaneous drug abusers; and male homosexuals. These patients may be identified from the medical history. These or suspected patients may require additional diagnostic testing to determine proper treatment or whether they require special consideration. For example, blood tests may be helpful in determining if a patient with a history of hepatitis B is an antigen carrier and potentially infective or whether hepatitis antibodies have developed and the patient is least likely to transmit the disease.

Patients suspected of having a history of hepatitis, syphilis, or tuberculosis should be treated with all precautions outlined in this report. Those known to have a history of hepatitis should be encouraged to have their serum tested to determine their current serologic status. The most sensitive methods for detecting HBsAg are radioimmunoassay, enzyme immunoassay, and reverse passive hemagglutination. For detection of antibody to HBsAg, radioimmunoassay or passive hemagglutination should be used.²¹ Those patients with a history of acquired or congenital syphilis with suggested active lesions should be encouraged to have the Venereal Disease Research Laboratory (VDRL) serologic test for syphilis. If there is a personal or familial history of tuberculosis and active lesions are present, bacteriological tests should be recommended to determine if the tubercle bacillus is present. If facilities are readily available for testing of serum and bacteriological screening, dentists may wish to request that these tests be made before treatment. It may be necessary to treat patients with active tuberculosis, syphilis, hepatitis, or streptococcal infections in special clinics designed to treat patients with

infectious diseases. If possible, patients with streptococcal infections should receive dental treatment after the infection has been resolved.

STERILIZING, DISINFECTING, AND CLEANING

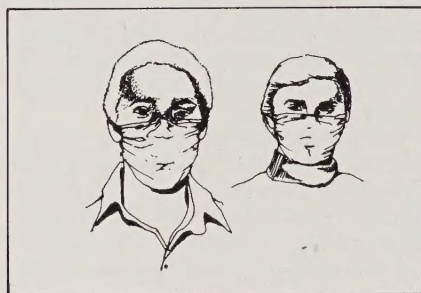
All instruments, burs, mirrors, bands, and other devices used in intraoral treatments should be routinely sterilized by dry heat at 160 C for an hour, autoclaved with steam at 121 C and 15 psi pressure for 30 minutes, sterilized by chemical vapor (alcohol-ketone-formaldehyde vapor) at 127 C and 20 to 25 psi for 20 minutes, or sterilized with ethylene oxide, 10%, in carbon dioxide at 55 to 69 C for eight to ten hours.



When it is not possible to use the sterilization methods previously mentioned, the following methods can be used for disinfection: immersion in 100 C (boiling) water for 30 minutes or soaking in activated 2% alkaline glutaraldehyde for at least ten minutes (ten hours is recommended if instruments have been used on a patient known to be infected with tuberculosis or another spore-forming microorganism). Instruments or devices that would not be damaged by aqueous solutions can also be treated by immersion in a 1% solution of sodium hypochlorite (approximately 1:5 dilution of commercially available liquid chlorine bleach) for ten minutes or a 1% to 2% solution of formaldehyde for 20 to 30 minutes. These chemicals are irritating to tissues, however, and instruments or devices should be rinsed thoroughly with sterile water before use in the mouth. Quaternary ammonium compounds are not effective against spore-forming microorganisms or viruses and should not be used in the dental office as disinfectants.²²

Surfaces touched by dentist or assistants that might be contaminated by blood or saliva should be cleaned and disinfected after each patient. Meticulous and frequent physical cleaning of surfaces in the operatory is essential for prevention of cross-contamination. Detergent solutions assist in removing dried blood, but should not be relied on to disinfect these surfaces. Quaternary ammonium compounds, for example, have detergent properties, but are not adequate disinfectants. Alcohol, either 90% isopropyl or 70% ethyl, may also be used on gauze wipes for cleaning surfaces and for wiping handpieces that cannot be routinely sterilized after use on a patient. Alcohol is not an effective disinfectant for viruses or spore-forming microorganisms, but does aid in solubilizing dried blood and saliva.

Until handpieces can be replaced with models that can be routinely sterilized, scrubbing them in detergent solutions and wiping with alcohol is an alternative.



PHYSICAL BARRIERS

Efficient face masks provide some protection from inhalation or ingestion of larger aerosol particles.²³ Gloves will protect the hands from contamination by saliva and blood. Masks and gloves should be worn in all instances in which risk of contamination exists, such as when treating patients known to have an acute or chronic systemic infection. Dentists and dental personnel who know that they are carriers of hepatitis B should wear gloves and face masks when treating patients. Although there is no direct evidence that gloves and masks will significantly reduce the chances of transmission, there is evidence that the virus may be spread by transfer of saliva. Therefore, any effort to reduce the chance of expulsion of



droplets from talking, coughing, or sneezing is encouraged. Hence, an efficient mask could reduce both inhalation (or ingestion) and transmission of microorganisms. With these and other precautions, there is evidence that dentists who are carriers can continue to practice without transmitting the disease to patients.²⁴

Protective eyeglasses should be worn when providing treatment that may result in the formation of an aerosol or splatter. Protection of the eyes is also recommended for patients when these types of procedures are used.

REDUCE THE SPREAD OF MICROORGANISMS

Patients should use some oral hygiene technique, such as use of a mouthwash, rinsing, or toothbrushing, before dental treatment.^{25,26} Even a water rinse can reduce the number of bacteria in saliva before treatment.

When practical, a rubber dam should be used to isolate the work area from the rest of the mouth.

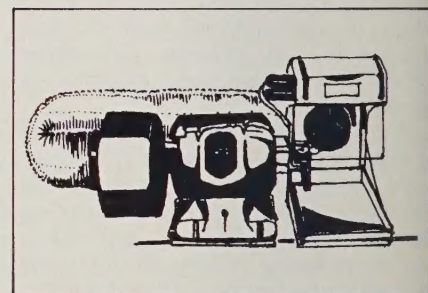
A high-velocity evacuation system should be used. The aspirator tip should be placed adjacent to the work area for the greatest efficiency.

When rinsing the work area, water followed by air spray should be used rather than a combined air-water spray. This technique will create less splatter.

The use of brushes should be avoided for polishing, buffing, or prophylaxis. Rubber polishing points or prophylaxis cups do not cause as much splatter.

LABORATORY PROCEDURES

Prosthetic devices should be thoroughly cleaned before grinding or polishing procedures that might generate an aerosol.



Shields and blower evacuation systems should be used when prosthetic materials are polished or ground.

The following procedures are methods for reducing contamination that would require alteration of equipment or extra time by dental personnel. They may not be necessary in regular practice, but could be incorporated into a practice in which patients are known to be infectious.

EXTRA TIME BY PERSONNEL

Disposable equipment and covers should be used when possible. Areas of special consideration include the instrument tray, lamp handle, tray pull handle, radiographic equipment, and so forth. Disposable covers can reduce cleaning and disinfecting time between high-risk patients.

The waterlines of the dental unit and ultrasonic scalers should be flushed for at least two minutes before and after use on patients. After long periods of inactivity, such as after weekends or holidays, longer flushing may be necessary.

At the beginning and end of each day of practice, the dental unit should be flushed with a germicide, such as a 1:4 dilution of iodophor detergent for five minutes; a 2% activated alkaline glutaraldehyde for ten minutes; or 50 ppm chlorine solution (approximately 1:1,000 dilution of commercially available liquid chlorine bleach) for ten minutes. This requires installation of a quick disconnect valve and may not be possible with all units.

The waterline in a dental unit should be periodically checked for contamination. This may be done by plating a 0.1-ml water sample on an agar blood plate and incubating it for 48 hours at 37°C. If more than ten colonies are formed, the waterlines should be flushed as previously described.

ALTERATION OF EQUIPMENT

Dense waterline filters, which may become contaminated and act as a source of contamination, should be replaced with fine-screen wire filters.

The water retraction valve should be removed. This valve is located in series with the waterline and inside the dental unit.

The Councils recognize that epidemiologic studies have not been conducted that completely define and document all aspects of hygiene problems of dental practice. Therefore, the Councils urge that the appropriate studies be conducted.

As new equipment and devices are developed, manufacturers are encouraged to consider designs that will help eliminate possible problems of contamination and discourage designs that contribute to poor hygiene in dental practice. For example, new handpieces should be designed and made of materials that can be easily and repeatedly sterilized; inexpensive disposable materials should be developed; and instantaneous cut-off valves rather than retraction valves should be used in waterlines of dental units.

Dentists are encouraged to critically evaluate every aspect of their practice that could result in cross-infection. They are urged to incorporate as many of the procedures outlined in these recommendations into their practice as are practical.

The Councils acknowledge the assistance of the following persons in preparing this report: James J. Crawford, University of North Carolina School of Dentistry; Martin S. Favero, Center for Disease Control, Phoenix; Robert L. Miller, Pleasant Hill, Calif.; Norman J. Petersen, Center for Disease Control, Phoenix; and Charles B. Sabiston, Jr., University of Iowa College of Dentistry.

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ABSTRACTS

EFFECT OF PARENT'S PRESENCE ON CHILD'S REACTION TO DENTAL VISIT

If they are given the option, most parents and children initially prefer to remain together during the child's dental visit. In this study, the parent's presence was not associated with a negative response by the children.

Sixty-four preschool children with no previous dental experience were studied during 207 dental visits in which they received an initial examination, treatment, and a visit for polishing of the restorations. The child's response to each visit was assessed on the basis of heart rate, basal skin response, rating of clinical anxiety and cooperative behavior, and a picture test. In the latter, the child was asked to choose the boy in each pair (see illustration) who appeared to feel the way he did; the score represented the number of times the child chose the anxious member of the pair. The parent's presence or absence in the operator was neither encouraged nor discouraged.

The 207 visits included 46 with the parent absent, 51 with the father present, and 110 with the mother present. Presence or absence of the parents did not produce any significant differences when the children's responses for all visits were combined, or when each dental visit was analyzed separately. At the examination visit, 86% of the parents were present; this percentage declined with each visit until only 45% were present during the final visit. This decrease was interpreted as a positive sign that the children were becoming more secure and relaxed as they became more familiar with the dental environment. The fact that nearly half continued to prefer being together indicated that the parent-child pairs were sharing an experience and that they gained mutual pride and satisfaction from mastering what they considered to be a difficult experience. [Venham, Larry L.; Bengston, Dana; and Cipes, Monica. Department of Pediatric Dentistry, School of Dental Medicine, University of Connecticut, Farmington, Conn 06032. Parent's presence and the child's response to dental stress. *J. Dent. Child.* 45:213-217 May-June 1978].

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Child's anxiety is assessed partly by his choice of which boy in each pair he identifies with.

1979: THE YEAR OF THE CHILD

Among the causes for civil rights in Canada, one major group of citizens have been overlooked in having a spokesman or a platform for their demands for equal treatment. This year, the International Year of the Child, a group of concerned citizens are planning on doing something about it.

The United Nations have designated 1979 as the year the rights of children will come to centre stage, 20 years after the Declaration of Children's Rights was first put forward.

These rights are:

- The right to free education;
- The right to affection, love and understanding;
- The right to adequate nutrition and medical care;

- The right to full opportunity for play and recreation;
- The right to a name and nationality;
- The right to special care if handicapped;
- The right to be among the first to receive relief in times of disaster;
- The right to learn to be a useful member of society and to develop individual abilities;
- The right to be brought up in a spirit of peace and universal brotherhood;
- The right, finally, to enjoy these rights regardless of colour, sex, or race.

Groups and individuals interested in obtaining information about the International Year of the Child are encouraged to write to: The Canadian Commission: 1979 - International Year of the Child, 323 Chapel Street, Ottawa, Ontario K1N 7Z2.

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VOLUME 13, NO. 2

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$10 per year in Canada and \$12 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du rédacteur.

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MEMBER PUBLICATION
AMERICAN ASSOCIATION OF DENTAL EDITORS
617 6/CN ISSN 0008-3380

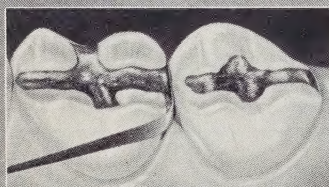
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THANK YOU, MARJORIE DIMITRI

The time, effort, and labour Marjorie Dimitri has devoted to this journal and, in turn, to the Canadian Dental Hygienists' Association will be remembered for many years to come. Marjorie has faithfully served the journal in the capacity of major contributor or Editor of this publication for the past seven years. During her Editorship, the journal progressed aesthetically and scientifically to the point where its improved quality received formal recognition at the 1977 International College of Dentists Journalism Competition with the awarding of an Honourable Mention in the Golden Pen Category. Marjorie has created a professional publication that we all can be proud of, learn from, enjoy, and anticipate with eagerness.

On behalf of the Canadian Dental Hygienists' Association, I offer Marjorie our sincere gratitude and appreciation for her significant contributions to this journal, and wish her happiness and good fortune in her future endeavours, which hopefully will include some dental journalism.

Stephanie Nagle

DENTAL HYGIENE MANPOWER STUDY

This June, a survey of all Canadian dental hygienists is being conducted by the Canadian Dental Hygienists' Association and the Ontario Dental Hygienists' Association, in co-operation with the Dental Health Care Services Research Unit at the Faculty of Dentistry, University of Toronto. The Research Unit, supported by a grant from the On-

tario Ministry of Health, is surveying dental manpower in Ontario including dentists and all related auxiliary groups, and has been most helpful in assisting us with this nationwide Dental Hygiene Manpower Study.

The survey will supply our associations with valuable information concerning activities, duties, salaries, benefits, and will give us a grasp on the present employment situation. If our research conclusions are to be relevant, we require the co-operation of every hygienist in completing this survey as quickly and as accurately as possible. Please make a special effort to respond.

*Elaine Good, R.D.H.
CDHA Manpower and Utilization
Chairman*

Editor's note: In that this study should provide the statistical evidence in answer to the critical question as to whether there are too many hygienists, it is to every hygienists' best interests to support this study, and I, too, strongly encourage you to do so.

ONTARIO HYGIENISTS HOLD GENERAL MEETING ON SUPERVISION

Approximately 100 Ontario hygienists met in Toronto, on March 10, 1979, for an information sharing session concerning the present regulations regarding supervision of hygienists in the province. At this time the RCDS of Ontario interprets the legislation as meaning that the dentist must be physically present in the same office area in which the dental hygienist performs his or her duties. The Executive of the Ontario Dental Hygienists' Association and members of the ODHA Task Force on Legislation presented the findings of their research into the implications of this current interpretation. Participants in this seminar were Lynn Jones, Carole Ono, Pat Johnson, Ailsa Wood, Anne Boley, Pat Webb, and John Banliff (ODHA legal counsel). Group discussions followed the presentations in which those attending were allowed to express their concerns about the issue and to ask further questions. The session proved valuable to the general hygiene community in terms of clarifying the circumstances surrounding the issue and served as an open forum providing direct feedback for the Task Force members.



Pat Johnson fields questions from the floor as John Banliff (far left), Ailsa Wood, and Lynn Jones (far right) look on.

N.Y. COURT AWARDS \$750,000 IN FLUORIDE OVERDOSE SUIT

A \$750,000 jury award has been granted by the state Supreme Court to the parents of a three-year-old Brooklyn, N.Y. boy who died of a lethal dose of topical fluoride in 1974.

The death is the only reported case of a fatality resulting from fluoride poisoning in dental treatment.

According to testimony during the trial, the lethal dose of fluoride was administered in a city dental clinic during the boy's first dental visit. The parents of William Kennerly were awarded \$600,000 for wrongful death of their son and \$150,000 for pain and suffering that he endured in the hours before his death. The defendants were: New York City, its health and hospitals corporation and one of its clinics where the boy was treated, a dentist and dental hygienist at the clinic, the Brookdale Hospital and its ambulatory pediatric care unit where the boy was taken after the poisoning, and a pediatric physician at the hospital.

The details of the case were originally published in the August 1976 issue of the *Journal of the Maryland Dental Association*.

Editor's note: Dr. Herschel Horowitz's comments of the case, originally published in the Spring 1977 issue of the *Journal of Public Health Dentistry*, were reprinted in the Winter 1977 issue of *The Canadian Dental Hygienist*.



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SMOKING HABITS OF CANADIANS 1977

The majority of Canadians are non-smokers, according to statistics released by Health and Welfare Minister Monique Bégin. The figures were released to mark this year's National Education Week on Smoking (January 1-27).

The 1977 Canadian Smoking Habits survey shows a continuing increase in the percentage of Canadians who do not smoke. Approximately 58 per cent of the population 15 years of age and over were non-smokers in 1977, compared to 50.2 per cent in 1965 and 55.3 per cent in 1974.

The smoking habits survey has been conducted annually by Health and Welfare Canada in conjunction with Statistics Canada.

It is encouraging to note, the Minister said, that as of 1977, 13.3 per cent of the population 15 years of age and over had successfully kicked the habit.

In 1977, however, approximately 6.3 million Canadians, some 35.9 per cent of the population 15 years of age and over, were regular cigarette smokers.

Regular smoking among males 20 and over has declined steadily since 1965, from 57.9 per cent to 43.0 per cent in 1977. Between 1975 and 1977, a 2.6 per cent decrease was reported, with the largest percentage decreases occurring among men 45 to 64 and 20 to 24.

According to the 1977 survey, the percentage of women who smoke regularly has remained relatively unchanged during the past 13 years, at approximately 32 to 33 per cent of the adult female population.

Smoking in the teenage population continues to decline. In 1977, 26.8 per cent of teenagers 15 to 19 were regular cigarette smokers compared to 30.5 per cent in 1970 and 28.5 per cent in 1975. This trend is largely attributable to substantial decreases in the percentage of teenage boys who smoke daily. In 1977, 26.9 per cent of teenage boys and 26.7 per cent of teenage girls were reported smoking regularly.

The survey reveals considerable differences in the regional distribution of regular cigarette smokers. As in previous years, Quebec had the highest percentage of both male and female smokers 15 and over in 1977. About 48 per cent of the Quebec male population indicated they smoked regularly, followed by the Atlantic provinces (43.5 per cent), Ontario (38.2), the Prairie provinces (37.9) and British Columbia (4.0).

Regional distribution of the female smoking population was: Quebec, 35.5 per cent; Atlantic provinces (32.5); the Prairie provinces (29.8); British Columbia and Ontario, (28.8).

USAGE DU TABAC AU CANADA 1977

La majorité des Canadiens ne fument pas, selon les statistiques rendues publiques par le ministre de la Santé nationale et du Bien-être social, Madame Monique Bégin, lors de l'inauguration de la Semaine nationale de l'éducation sur le tabac (les 21 - 27 janvier).

D'après les résultats cumulés dans le rapport Usage du tabac au Canada - 1977, le nombre des non fumeurs parmi les Canadiens continue d'augmenter. En 1977, environ 58 pour cent des Canadiens âgés de 15 ans et plus ne fumaient pas comparativement à 50.2 pour cent en 1965 et à 55.3 pour cent en 1974.

Ce rapport est basé sur les données recueillies à la suite des enquêtes sur l'usage du tabac au Canada effectuées chaque année par le ministère de la Santé nationale et du Bien-être social de concert avec Statistique Canada.

Il est encourageant de constater, poursuit le Ministre, que selon l'enquête de 1977, 13.3 pour cent des Canadiens âgés de 15 ans et plus ont réussi à cesser de fumer.

D'autre part, en 1977, environ 6.3 millions de Canadiens, c'est-à-dire, 35.9 pour cent de la population âgée de 15 ans et plus, fumaient la cigarette tous les jours.

Par contre l'usage régulier du tabac chez les hommes âgés de 20 ans et plus continue de diminuer. En effet, 43 pour cent d'entre eux fumaient régulièrement la cigarette en 1977 comparativement à 57.9 pour cent en 1965. Les statistiques révèlent une baisse de 2.6 pour cent du nombre d'hommes fumant régulièrement la cigarette entre 1975 et 1977. Les réductions les plus importantes ont été observées chez les groupes d'âge de 45 à 64 ans et de 20 à 24 ans.

Toujours selon l'enquête de 1977, le pourcentage des fumeuses assidues est demeuré relativement stable au cours des treize dernières années, les taux sont maintenant de 32 à 33 pour cent de la population adulte féminine.

L'usage du tabac chez les jeunes de 15 à 19 ans continue de diminuer. En 1977, le taux des fumeurs assidus dans ce groupe était de 26.8 pour cent comparativement à 30.5 pour cent en 1970 et à 28.5 pour cent en 1975. C'est aux baisses considérables enregistrées dans le pourcentage de garçons fumant régulièrement qu'il faut attribuer cette diminution. En 1977, 26.9 pour cent des adolescents et 26.7 pour cent des adolescentes ont signalé qu'ils fumaient tous les jours.

L'enquête révèle qu'il existe des écarts considérables dans la répartition régionale des fumeurs assidus. Le Québec affiche encore le plus haut

pourcentage de fumeurs assidus dans l'ensemble de la population âgée de 15 ans et plus.

Chez les hommes, les pourcentages de 1977 étaient de 48 pour le Québec, suivi des provinces Atlantiques avec 43.5; de l'Ontario avec 38.2, des Prairies avec 37.9 et de la Colombie-Britannique avec 34 pour cent.

Chez les femmes, ces pourcentages étaient de 35.5 pour le Québec, de 32.5 pour les provinces Atlantiques, de 29.8 pour les Prairies, de 28.8 pour la Colombie-Britannique et l'Ontario.

DO-IT-YOURSELF QUIT SMOKING COURSE

Marie Tracy, Director of Action B.C.'s "Butt Out" project has written this manual for smokers on how to quit smoking. It is flexibly-designed so that the smoker will be able to tailor his own methods to suit himself.

The 45-page booklet has been produced through the courtesy of the Cassiar Asbestos Corporation Limited, Suite 2000, 1055 West Hastings Street, Vancouver, B.C. V6E 3V3. It is available from the company at cost (31¢ each, plus postage).

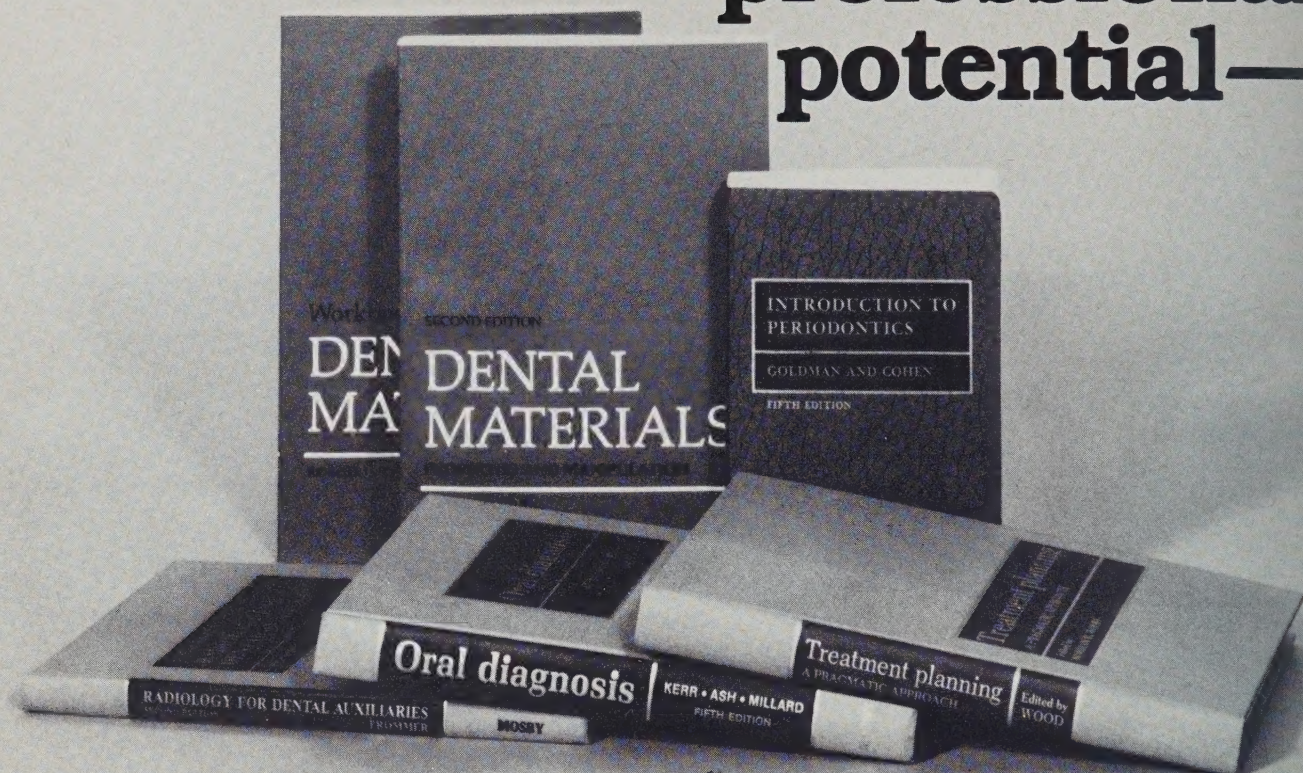
DENTAL HYGIENE CLASS OF '53

The first class of Canadian dental hygienists graduated from the University of Toronto, Faculty of Dentistry, twenty-six years ago this year. The director of the programme, Miss Andree Hebert, was one of two registered dental hygienists in Ontario at that time. This pioneer programme was made possible by a \$34,000 grant from the Kellogg Foundation which carried the course for its initial three years.



Members of the first graduating class from left to right: Diane Crosson, Port Colborne; Joan Bogart, North Battleford; Vira Jessup, Iroquois Falls; Frances Finley, Toronto; and Ruth Tolman, Toronto.

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CANADIAN POSITION ON NITRITE IN CURED MEATS

Health and Welfare Minister Monique Bégin recently announced that additional restrictions on the use of nitrite in the curing of meats in Canada are not warranted at this time. The decision was reached following thorough evaluation of available information on the benefits and risks associated with nitrite.

Miss Bégin noted that it has been a long-term policy of her department to limit the use of nitrite and nitrate, a related chemical, to levels necessary to prevent formation of botulinus toxin in cured meat products. The department's long-term goal is to phase out the use of nitrite and nitrate if safe and effective substitutes become available. Thus, use of nitrite in curing fish products was prohibited in 1959. In 1975, almost all permitted uses of nitrate in curing of meats were stopped, the remaining uses of nitrate were restricted to a level of 200 parts per million, and the level of nitrite added in the curing of bacon was reduced to 150 parts per million and 200 parts per million in preparing other cured meat products. Regulations prohibiting the pre-mixing of nitrates and nitrite with other components of dry cures also were promulgated in 1975.

Until recently, concern about nitrite focused on the possibility that it could combine with other chemicals in foods and in the body to produce substances called nitrosamines, which are potent cancer-producing agents. A recent U.S. study by Professor Paul Newberne of the Massachusetts Institute of Technology has suggested that nitrite itself may produce cancer when fed in high doses to rats. Officials of the Health Protection Branch (HPB) are fully aware of the Newberne study and have been in close consultation with Dr. Newberne and with health officials in the United States and United Kingdom. A detailed examination of the Newberne study and of all other published information bearing on the safety of nitrite is being undertaken by HPB scientists.

HPB has had active programs of investigations on the safety of nitrites underway for several years. In a recently-concluded long-term study conducted under contract for the Branch, rats were given diets that included 25 per cent cooked bacon made with or without nitrite throughout their lifespan. The incidence of cancer was unchanged in animals given the nitrite-cured bacon as compared to those receiving bacon without added nitrite. The results of this study provide added assurance on the safety of nitrite under practical conditions of use.

In considering appropriate action on nitrite, it must be kept in mind that its use is required to prevent growth in

cured meats of *Clostridium botulinum*, a microorganism which causes botulism, a serious and often deadly disease. Nitrite also retards the growth of spoilage microorganisms and imparts a characteristic flavour and colour to cured meats. To date, no suitable substitute for nitrite has been found. Thus, it is necessary to balance the essential value of nitrite in preventing botulism against the theoretical possibility that it may produce cancer, either directly or through the formation of nitrosamines. At present, if nitrite were not used, bacon, ham, and other cured meat products as we know them would not be available to the public. The cooking times and temperatures necessary to ensure bacterial safety of canned meat products such as luncheon meats made without nitrite would render these products esthetically undesirable. All remaining smoked meat products would require storage at refrigeration temperatures.

Since no safe and effective substitute for nitrite is available, elimination of its use at this time would expose consumers of processed meats to the very real risk of botulism and would deprive consumers of the characteristic flavour and

colour of cured meats such as bacon and ham. "On the basis of a benefit to risk assessment, I have concluded that the elimination of nitrite would not be warranted," Miss Bégin reiterated.

In carrying forward its long-term policy to reduce unnecessary use of nitrite, the HPB will continue to work closely with scientists in the Canadian meat industry and to closely monitor world experience with this substance.

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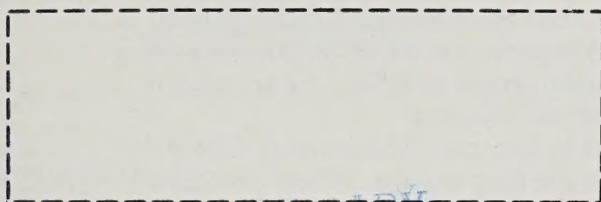
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SELF-ASSESSMENT TEST

The Board of Directors of the Canadian Dental Hygienists' Association has selected continuing education as the number one priority for the coming year and is currently exploring alternate avenues of learning. To this end, the self-assessment tests initiated in 1977 are being continued. The 1979 series will focus on different areas of knowledge relating to dental hygiene practice, the second of which is dental anatomy.

Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 45 for the correct answers.

1. Which of the following statements, contrasting general differences between permanent and deciduous teeth, is true?
 - a) the cervical enamel ridge on the facial is less pronounced in permanent teeth
 - b) the permanent teeth are lighter in colour
 - c) the roots of the permanent teeth are relatively longer and more slender
 - d) the roots of the permanent teeth flare more toward the apical
2. The deciduous maxillary second molar most closely resembles a
 - a) permanent maxillary first molar
 - b) permanent mandibular first molar
 - c) deciduous maxillary first molar
 - d) deciduous mandibular second molar
3. A certain permanent molar has four major cusps and a minor cusp, plus three roots.
 - a) maxillary first molar
 - b) maxillary second molar
 - c) mandibular second molar
 - d) maxillary third molar
4. The cusp of mandibular premolars which is normally nonfunctional is the
 - a) buccal of first premolars
 - b) lingual of first premolars
 - c) buccal of second premolars
 - d) lingual of second premolars
5. Of the following structures, all of

which are found on the crowns of maxillary premolars, which is **not** normally found on maxillary incisors?

- a) a facial ridge
- b) a fossa
- c) imbrication lines
- d) facial developmental depressions

6. The greatest convexity (height of contour) of the buccal surface of a molar is generally located in the
 - a) middle third
 - b) gingival third
 - c) occlusal third
 - d) gingival and middle thirds
7. Of the following teeth, the one which normally exhibits five major cusps, is the
 - a) permanent maxillary first molar
 - b) permanent mandibular second molar
 - c) deciduous mandibular first molar
 - d) permanent mandibular first molar
8. When viewed from the incisal aspect, this permanent incisor's crown appears twisted on the root. It is most likely the
 - a) maxillary central
 - b) maxillary lateral
 - c) mandibular central
 - d) mandibular lateral

9. Fossae are normally located on which of the following crown surfaces of teeth?

- a) lingual surface of the posterior teeth
 - b) buccal surface of the posterior teeth
 - c) lingual surface of the anterior teeth
 - d) labial surface of the anterior teeth
10. The gingival line of a tooth
 - a) is the same thing as the epithelium as the CEJ
 - b) always separates the anatomical crown and root
 - c) is always located at the same level as the CEJ
 - d) always separates the clinical crown and root.

Suggested References:

Fuller, J.L., et al. *Concise Dental Anatomy and Morphology*. Chicago: Year Book Medical, 1977.

Massler, M., et al. *Atlas of the Mouth in Health and Disease*. Chicago, American Dental Association.

Permar, D., et al. *Oral Embryology and Microscopic Anatomy*. Philadelphia: Lea and Febiger, 1977.

Bonnie J. Trodden, R.D.H., B.A.
Instructor, School of Dental Hygiene
University of Manitoba.

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JULY 25 TO 28, 1979, VANCOUVER, CANADA

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By Robert G. Craig, Ph.D.; William J. O'Brien, Ph.D.; and John M. Powers, Ph.D. January, 1979. 274 pages, 209 illustrations. Price, \$14.00.

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Dr. Marjorie Jackson - A Tribute To Her Success



Dr. Marjorie Jackson, D.D.S., F.I.C.D.

Many dental hygienists have come to know and respect Dr. Marjorie Jackson as a strong, idealistic yet practical, demanding yet fair, pioneering woman. She is a pioneer in the sense of having accepted the challenge, responsibility, threat and honour of being a first woman in almost every milestone of her career.

May I take you down a most interesting memory lane . . . Born in St. Thomas, Ontario, a move was made into Toronto where Dr. Jackson developed an early interest in music, leading onwards to the A.C.C.M. Honours Diploma in piano from the Canadian College of Music. This musical appreciation has continued through the years - weekends find Dr. Jackson playing piano for residents of a home for the aged.

Following this musical beginning, Dr. Jackson graduated from the Dental Nursing program at the Faculty of Dentistry, University of Toronto, after which she was employed as a dental nurse in general and oral surgery practices. The opportunity arose to move back to the Faculty of Dentistry where she functioned as Secretary to the Director of Clinics, Dr. R.G. Ellis. A teaching career unfolded for her at this moment, and she began teaching Operative Dental Assisting and Pharmacology in the Dental Nursing Program at the University of Toronto.

Not long after her return to a Faculty environment, Dr. Jackson made yet another return, this time as a dental student. Graduation celebrations in 1950 conferred the D.D.S. degree with honours as well as the Pro Liberis prize in Paedodontics to Dr. Marjorie Jackson.

Nine years of private practice followed graduation, during which time she became a part-time Associate in Dentistry in the Department of Paedodontics at the Faculty of Dentistry, University of Toronto. Dr. Jackson's first ties with Dental Hygiene began as she lectured in Paedodontics to second-year hygiene students. From 1959 to 1962, she held a full-time appointment in the Dept. of Paedodontics and progressed to the level of Associate Professor with teaching responsibilities in the preclinical and clinical programs for both undergraduate and graduate dental students.

New administration and teaching responsibilities presented themselves when Dr. Jackson became the Director of the Division of Dental Hygiene, in the Faculty of Dentistry, University of Toronto, a post she held for fifteen years. Her major contributions to dental and dental auxiliary education were recognized by the Faculty, and in 1967, Dr. Jackson became a Full Professor with tenure - the first woman so appointed in any Canadian Dental School.

Subsequently, the Dental Hygiene program was moved to various community colleges throughout Ontario, therefore, 1977 saw the last graduating class of hygienists at the University of Toronto of which Dr. Jackson was asked to become the Honorary Class President. This event by no means marked the end of Dr. Jackson's career.

In 1976, a long-time ambition was realized by the hygiene profession - Dr. Jackson organized the Bachelor of Science in Dentistry degree program for dental hygienists, a most exhausting but exhilarating accomplishment.

Dr. Jackson has recently returned to the Faculty of Dentistry following a six month sabbatical leave during which she spent some time in London, England at Guys Dental Hospital. Presently, Dr. Jackson maintains her affiliation with the B.Sc.D. program, and has undertaken the new responsibility of co-ordinating and developing the Dental Faculty's Continuing Education Program.

During the past forty years, Dr. Jackson has been involved in dentistry either as a student, a teacher, a lecturer, or a Director of Dental Hygiene, and now continues as a Professor of Dentistry. Her most recent honour was bestowed in September 1978 when Dr. Marjorie Jackson was elected a Fellow of the International College of Dentists (F.I.C.D.) in recognition of conspicuous service rendered in the Art and Science of Dentistry - the first Canadian woman so elected.

The dental hygiene profession is deeply indebted to Dr. Marjorie Jackson for her significant contributions to dental auxiliary education, and extends sincere congratulations to her on becoming a Fellow of the International College of Dentists. Success could not have found a more deserving person.

Helga Dettbarn, R.D.H., B.Sc.D.

Dental Health Education in the Hospital - A Role for the Dental Hygienist

MARGARET MILLER, R.D.H., B.A.

Mrs. Miller is an Assistant Professor at the School of Dental Hygiene, University of Manitoba, Winnipeg, Manitoba and Chairman of the CDHA Education Committee.

HIGHER PRIORITY FOR HEALTH PROMOTION

Health professionals are giving a great deal of thought these days to their role in health promotion. The Canadian Public Health Association, in a 1974 policy statement, expressed the philosophy, *Health promotion must be considered the responsibility of all health disciplines. It is through the co-operative efforts of all members of the health care team that health promotion will be effective in developing public awareness, influencing attitudes and changing behaviours in matters related to health.*¹ To follow through on this concept, one could say that, since the hospital is a major centre in the health care system, the hospitalized patient should be entitled to the information and guidance necessary to achieve, restore, and maintain oral health.

Where is the money for health services being spent? The Lalonde report in 1974 estimated that almost seven billion dollars a year were spent on a personal health care system which was oriented chiefly to the treatment of existing illness. This estimate included medical and hospital care, laboratory tests, prescription drugs, the services of optometrists and chiropractors, and dental care.² Health promotion received only a small share of the pie.

Payment for the prevention and treatment of dental diseases constitutes a reasonable proportion of the money spent by Canadians on health care. A recent Canadian study ranked the top five disease categories in descending order of the economic burden for which they accounted. Diseases of the digestive system, which included dental diseases, ranked fourth at 11.2% of the total health care burden.³ It is evident that dental care is costing Canadians enough money that a major

provider of health care services, such as the hospital, should be offering some well defined programs to prevent dental diseases.

To be committed to dental health promotion, a hospital must have a policy commitment to dentistry in particular and to health promotion in general. Patient education should not be left to chance or to the individual initiative of staff and patients. Hospital health promotion programs can be designed to complement outside programs which encourage Canadians to accept more responsibility for their well-being and are dedicated to the principle of self-help.

THE ROLE OF THE DENTAL HYGIENIST

The role of the dental hygienist as a hospital dental health educator is currently being developed in several hospitals across Canada. This role needs to be clarified and better understood.

Traditionally, the dental hygienist, under the supervision of a licensed dental practitioner, performs or supervises the delivery of oral health care services as regulated by provincial governing bodies. Permissible clinical functions will vary from province to province, but dental health promotion is a universal and primary function of the dental hygienist all across Canada.

In defining the role of a dental health educator, one must relate it to both the hospital health educator and the nurse. Hospital health educators provide continuing education for health professionals and in-service education related to direct patient care. They presently function in many hospitals in Canada.

Consideration should be given to the lead taken by the nursing profession to redefine its role. A February 1978 article in the *Canadian Nurse* stated that *Rapid changes in health care in the last few decades have encouraged nurses to revise their ideas about their so-called "professional role", to include not only caring for the sick and assisting with the cure of illness, but also helping people become capable of self-care.*⁴

The dental hygienist is well qualified, by virtue of a two to three year educational program dedicated to preventive dentistry, to assume the role of dental health educator in the hospital. She or he may also serve in other capacities within the hospital or clinic, such as clinical practitioner, consultant, and administrator. The Canadian Dental Hygienists' Association has defined dental hygiene, in general terms, as a dental health profession which provides services to promote optimal oral health for the public.

HISTORY OF DENTAL HEALTH EDUCATION PROGRAMS IN HOSPITALS

The concept of dental health education has not been well developed in hospital programs.

Dental services in hospitals have placed major emphasis upon treatment services. Dental auxiliaries, including dental hygienists, have often been able to utilize only their traditional clinical and chair-side educational skills. Opportunities to expand their duties beyond the clinical aspects of dental hygiene have been limited. Hospital custom and budgetary constraints appear to be two of the reasons why Chiefs of Dentistry have been slow to accept the concept of a ward and out-patient dental health education program.

In the past, hospital dental clinic staffs have consisted mainly of oral surgeons. Oral surgical procedures required post-operative instructions and discussion about further treatment and referral; dental health education may have been provided in a limited way. Consequently, emphasis was on maxillofacial and intraoral surgery rather than on preventive dentistry.

Hospital dentistry is frequently associated with a university faculty of dentistry, and dental students are often exposed to various hospital departments. Unfortunately, in the past, there have been only limited opportunities for these students to provide dental health information and instruction to patients and staff.

With more dental procedures being provided for chronically ill and handicapped patients, the importance of hospital dental treatment services has increased. However, in the past, treatment services do not appear to have been provided within the context of a broadly based preventive program.

EXAMPLES OF CURRENT PROGRAMS

What health education role is currently being executed by dental hygienists? An examination of some of the hospital dental health education programs both in Canada and in the United States reveals that the role of the dental hygienist varies

according to the type of institution which could include: general, children's, or veteran's hospitals, facilities for the mentally and/or physically handicapped, centres for senior citizens, or extended care homes.

Some Canadian schools of dental hygiene do prepare students to work in hospitals. For example, in Quebec, the main dental clinics for dental hygiene students at the CEGEPs (Collèges d'enseignement général et professionnel) are physically located in hospitals. Out-patients are the primary dental patients in these clinics. In addition, the CEGEP programs offer two courses during the third year of their program related to community preventive dentistry. In these courses, the students spend a period of time learning to perform specific tasks in the hospital dental clinic where both hospitalized and out-patients are treated.⁵

The University of British Columbia, the University of Alberta, and Dalhousie University provide field experience for their dental hygiene students on a rotational basis. This takes place in hospitals or in centres for the mentally and/or physically handicapped and senior citizens. While some programs provide only for observation of hospital procedures, others allow students to be involved with patient education on the wards and with in-service sessions for nursing staff.

At the Hospital for Sick Children in Toronto, the dental hygienist provides clinical preventive dental services as well as educational services. The educational aspect of the program includes oral hygiene instruction and diet counselling in relation to oral health, with special consideration given to the patient's medical condition. The program of instruction is adapted to the special needs of the patients who have medical, physical, and/or mental handicaps. It includes instructing patients on how to carry out home dental care upon discharge.^{6,7}

The Winnipeg Health Sciences Centre employs a part-time dental hygienist as both a clinician and an educator. The dental health education program includes counselling pre- and post-natal patients and arranging consultations for those with special dental needs. In addition, programs are conducted at the alcohol treatment unit, the neurological ward at the Children's Centre, and with specific patients in intensive care. Dental hygiene students from the University of Manitoba have routinely been involved in an education program at the Rehabilitation Centre. The dental clinic at the St. Amant Centre for Mentally Retarded Children employs a part-time dental hygienist who conducts staff in-service programs and small group sessions with patients residing in group homes, as well as providing preventive clinical services.

The dental hygienist at the Dr. Charles A. Jane-way Child Health Centre in St. Johns, Newfoundland, conducts a varied educational program. She is involved with the cleft palate team and with diabetic, hemophiliac, and cleft palate patients. She participates in well-baby clinics and is often called to the emergency ward to counsel patients. Brush-ins are arranged for long-term patients and their parents. The hygienist also provides staff in-service training, and, as this is a teaching hospital, meets with students in the health professions.

The Children's Hospital of Eastern Ontario, in Ottawa, employs a full-time hygienist. In addition to providing preventive dental care to patients, she teaches student dieticians, ward nurses, instructors of pre- and post-natal classes, student nurses, and parent groups. Routine preventive treatment for handicapped and chronically ill children includes diet analyses, requests for water testing, and provision of special equipment to enable patients to perform their own mouth care.

In the United States, two programs, recently reported in the literature, provide excellent examples of dental health and education programs in hospitals. At the Mount Zion Hospital and Medical Centre in San Francisco, a comprehensive health program was developed for children from birth to age 19. The dental department plans total treatment with primary emphasis on dental health education and prevention. The initial contact is made by a dental hygienist in either a one-to-one counselling or a small group session. Audio-visual aids are used extensively. With the emphasis on prevention, as well as restorative dentistry, this hospital dental program is recognized as a significant part of the total health program of the hospital. The dental staff work closely with pediatricians, psychologists, psychiatrists, social workers, and public health nurses.⁸

The dental hygienist at the Michael Reese Medical Centre in Chicago plays an important educational role in the hospital program, besides performing the traditional clinical and chairside educational duties of her profession. She teaches a variety of classes: expectant mothers learn about prenatal and early childhood aspects of dental care; diabetic patients are taught to combat their special oral health problems; and staff who are responsible for patients who cannot care for themselves are taught oral hygiene techniques.⁹

It is evident that a hospital dental service should provide much more than the necessary technical treatment. While all patients are entitled to the "preventive" approach to oral health care, there are special patients who require even more than the usual efforts for the prevention of disease and maintenance of optimum oral health. These include: patients who are in hospital for cardiac surgery; patients with rheumatic fever, congenital

heart disease, or hemophilia; patients undergoing radiation treatment to the head and neck; and those who are subject to renal transplantations or hemodialysis.¹⁰

Many hospitals have developed extensive in-service education departments in which a dental health educator could play a significant role. Pediatrics, obstetrics, rehabilitation, respiratory oral surgery, renal, intensive care, cancer treatment, alcohol and drug abuse, and dietetics are all hospital departments which often require information on dentistry and dental care. Dental health education may take the form of interprofessional conferences, in-service sessions, ward meetings, and presentations to student groups.

Dental health education can play a vital role in other institutions of health care. Centres for the mentally and physically handicapped require special guidance in maintaining the oral health of their patients. Nursing homes, geriatric centres, and personal care homes for the chronically ill also need to be considered.

FEATURES OF A DENTAL HEALTH EDUCATION PROGRAM IN THE HOSPITAL

The following represents a brief outline of a hospital health education program.

Objective:

- to promote the restoration, the achievement, and the maintenance of oral health by providing a practical and effective preventive program.

Content:

- Instruction in oral hygiene self-practices adapted to the medical, physical, and mental needs of the patient.
- Diet counselling in relation to oral health, taking into consideration the patient's illness, physical or mental handicap, and the general diet prescribed by the physician.

Rationale:^{6,7}

1. Regular dental care for the ill, and the physically and/or mentally handicapped is vital for the general health of the patients. They need professional assistance to help them overcome their difficulties in performing adequate personal care.
2. Mastication is facilitated and nutritional needs can be easily met, if tooth loss is prevented.
3. Poor oral health can be an extra burden on an ill or handicapped patient. Conversely, good oral health can improve the mental and physical well-being of a patient and can enhance the quality of his care by ward staff.

A practical and effective preventive program will help to maintain the restorative services rendered by the dentist.

Target Audience:

Staff and Students in the Health Sciences

Conduct in-service educational programs to teach staff how to care for their own mouths and how to teach, assist, or provide personal oral hygiene for their patients. Similar presentations can be made to student groups.

Patients

Particular attention should be paid to patients with special medical needs, patients in hospital for long periods of time, children, expectant and new mothers, and the elderly.

Relatives and Parents

Thorough individual counselling and instruction should be given to parents of child patients and to relatives of adult patients who are unable to adequately care for themselves.

Staff Required

Dental Health Educator: a dental hygienist graduate of a two-three year educational program who is licensed to practise by the provincial licensing body and who has an interest in providing dental health educational services for the medically, physically, and/or mentally handicapped.

CONCLUSIONS

Hospital dental services can no longer be considered treatment or dental emergency services exclusively. Hospital dentistry involves more than an abscessed tooth, a broken jaw, or impacted teeth that require hospitalization for extraction. It is more, too, than providing necessary clinical services for hospitalized patients. The program should also involve practical dental health education.

An American survey reported, in 1975, on the oral health status of 200 hospitalized patients. It revealed that 83.5% of patients suffered from some type of oral disease. Such findings, which would likely be replicated in Canada, indicate the need for a preventive dental service in hospitals.¹¹

The hospital is an important environment in which to provide dental health education. The dental hygienist, in the role of dental health educator, can work with the dentist, physician, nurse, health educator, and other professional staff as a member of the health team. Patients, with the aid of this well-informed staff, could become more capable of attaining a high level of self-care and well-being.

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BROCHURES AND PAMPHLETS

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Dental Health Guide: for those who care for and about chronically ill, handicapped and elderly people, The Division of Health, Wisconsin Department of Health and Social Services.

Dental Health Training for Employees of Nursing Homes, Bureau of Dental Health, Missouri Division of Health.

A Manual of Oral Hygiene for Handicapped and Chronically Ill Patients, Dental Health Section, Colorado Department of Health.

Toothbrushing and Flossing: A Manual of Home Dental Care for Persons who are Handicapped, The National Easter Seal Society for Crippled Children and Adults, Chicago.

(This paper was originally published in the January 1979 issue of Health Education, a quarterly bulletin of the Department of National Health and Welfare, and has since been revised, March 1979.)

Former Hygienist Addresses American Dental Hygienists' Association

Dr. March Fong Eu was the featured speaker at the President's Luncheon during the 55th Annual Session of the American Dental Hygienists' Association held recently in Los Angeles.

In addition to her long association with and Past Presidency of ADHA, Ms. Eu serves as California's Secretary of State. Elected in 1974, she is the first woman to hold that post and the first American of Chinese ancestry to hold a constitutional office in her state. A third-generation American, Ms Eu served four active and successful terms in the California legislature prior to being elected to her current position.

As active and varied as Ms. Eu's political career has been, her impact on the American Dental Hygienists' Association has been remarkable. A much respected Association member and Past President, Ms. Eu's speech at Annual Session was warmly and enthusiastically received. Her speech follows:

"I am greatly pleased to welcome this 55th Annual Session of the American Dental Hygienists' Association to Los Angeles and to California . . .

"In her kind invitation, Jeannette outlined several topics which may be of interest, one of which was the report by the Council of State Governments' dental task force. I am a member of that task force, and our deliberations will wind up shortly after our final hearings in Anaheim later this week.

"The task force has drafted what is called a Suggested Dental Practices Act which the individual states may examine for ideas in dealing with their respective statutes. At the outset I should indicate that model state laws or uniform state laws are rarely adopted by any state. I would expect that no individual state would adopt the suggested law drafted by our task force.

"The purpose of our report is simply to give some ideas to states which are looking for them and perhaps in the process, lay down some principles which eventually might find expression in dental practice laws nationwide.

"I was not appointed to the task force, by the

way, because I am a former dental hygienist. I was appointed because I am a former legislator who served on health-related committees and sponsored health-related bills.

"Our report is governed by two principles which do have some important implications, I think, for dental hygienists and other dental auxiliaries. The first is that the health and safety of the public is the foundation upon which state dental practice acts should be based. Any other considerations, and certainly there are many of them in existing laws, are irrelevant. The second principle is that the health and safety of the consuming public should be protected, and can be protected, with a minimum amount of regulatory interference.

"Now the application of these two principles to specific sections of the report is a matter of some controversy. The biggest controversy involves denturists and I am not entirely convinced that they do not have a good point. While we call on the one hand for a minimum amount of regulatory interference in the dental health care industry, we say on the other hand that denturists should be licensed by a dental board and that they must work under the supervision of a dentist.

"I am very much reminded of where we were 20 years ago, and to some extent, still are, with respect to what we can do and cannot do and whether or not the dentist must be holding our hand or looking over our shoulder when we do it. The denturists are pretty much in that position now and I frankly have not yet decided whether to go with them or the dentists on this issue.

"In any case, the matter has generated quite a bit of attention and, in fact, I have not received so much mail on a dental health related issue since I introduced legislation to fluoridate the water supplies of California; and you can imagine the uproar that caused.

"The dental hygienists' section of the report is not terribly controversial. It outlines the standard functions which are allowable already in most states. If anything, the dental hygienist section of the report is objectionable to some dentists because it generally calls for indirect and general

supervision rather than direct supervision for the functions outlined.

"If there is a bias in the report, it is a dentist bias. I have never seen a report on dental practice acts which did not have a dentist bias.

"I know that I had a "battle royal" at our meeting in Chicago with the Dean of the Michigan Dental School because when it came to our section dealing with the makeup of the suggested Dental Practices Board, he thought it was fine to have maybe one public member, but in no event should a dental hygienist, of all things, be a member of this professional Board. I did succeed on that issue and there is a recommendation that at least two auxiliaries be appointed.

"While we battled over the issue, I could not get too terribly excited because I do not think that dental hygienists should be subject to the jurisdiction of a dental board in the first place. With that, I want to dispose of the discussion of the report and get to some meat and potatoes.

"When I gave my presidential address to this Association some years ago, and perhaps a few of you were there when I did, when I gave that address I made two points. One related to the con- cerning of racial discrimination on the part of any affiliate of this Association or on the part of this Association itself. Human decency and the force of the law have ultimately vindicated my position on the matter and it need not be discussed in detail here. The other point I made was simply that Dental Hygiene as a profession should not be controlled by dentists.

"I bear no malice toward dentists or their profession. I enjoy the political support of dentists and I serve on the Board of Councillors of the USC School of Dentistry, which is located not far from here. My argument, that dentists should not control Dental Hygiene, is not a matter of personal animus with me. It is simple a matter of knowing, by experience and observation, that dentists will not voluntarily give up or even share functions historically regarded to be theirs, regardless of dramatic improvements in auxiliary education, training and techniques, and regardless of dental health care needs which an auxiliary, by education, training, and techniques, is fully qualified to meet. Let's face it — the laws regulating the dental health care community in the various states were written by dentists, for dentists and historically, they originally envisioned the sole practitioner days of years ago when pulling teeth was wrapped in the folklore of a shot of whiskey, a pair of pliers, or perhaps a string and a handy door.

"Dentists simply got in on the ground floor and the rest of us have been trying to sneak through the back door ever since. It should not be that way and it need not be that way, as Linda Krol has very courageously demonstrated here in California.

"The dental hygienist is a primary care provider of preventive dental services and, doggone it, she or he should be treated in that light by dentists and by the law!

"Dentists should regulate their profession; we should regulate ours. If I were still in this business, that's what I would be fighting for as I did years ago, only I would do it with even more confidence.

"Once again, let me say how much I appreciate this opportunity to take some time from my campaign to be with you and let me wish you the very best in the remaining time you will be here."

(Reprinted from Dental Hygiene, the Journal of the American Dental Hygienists' Association, Volume 53, Number 1, 1979.)

Peace River Health Unit No. 21

EXCITING preventive program requires a Dental Hygienist in the Peace River Health Unit, Fairview, Alberta.

DUTIES: Clinical and educational responsibilities. Opportunity to work with other health professionals.

QUALIFICATIONS:

Recognized University diploma in Dental Hygiene. Experience an asset although not required.

SALARY: Negotiable.

Based on Peace River Health Unit Salary Schedule.

APPLY TO:

Mrs. H. Campsall,
Associate Director,
Peace River Health Unit,
Box 69, PEACE RIVER, Alberta. T0H 2X0
Telephone: 624-3611

Wetoka Health Unit

requires a full-time **Dental Hygienist**, position available immediately.

Duties include involvement in:

- preventive pre-school and school dental health programs.
- classroom teaching
- community education programs
- clinical dental hygiene for children.

Qualifications: - recognized University diploma in Dental Hygiene or equivalent and preferably some experience.

Please apply in writing stating qualifications and experience to:

Mrs. Betty Grayson,
Personnel Officer,
Wetoka Health Unit,
5201 - 49 Avenue
Wetaskiwin, Alberta.
T9A 0R1

PRESENTING PREVENTION

Numerous preventive aids and educational materials have been designed to convey our dental health message to our patients and to the public. In an effort to announce their availability, this column will regularly feature preventive products and health educational materials which may add enthusiasm to our presentations and facilitate learning for our audience. Contributions to this column, including personal creative dental health ideas, are welcomed. Please send them to: Helga Dettbarn, 124 Edward Street, #321, Toronto, Ontario, M5G 1G6.

BEAUTIFUL TEETH: STOP CAVITIES BEFORE THEY START

Many of our patients either request or would greatly benefit from written information clarifying the sugar/cavity relationship. A pamphlet has been prepared by Beverly Musten and Nina Burgess (Preventive Department, Faculty of Dentistry, University of Toronto) to fulfill this need. Subheadings are 'Sugar causes cavities', 'Here's how it works', 'It's when and how often you eat sweets', and 'Sugar frequency check-up'. Two graphs are included illustrating acid level on teeth. The 'snacking' issue is discussed and a list of suitable and unsuitable snacks is given. The information is clear and simple while providing enough data to demonstrate the multifactorial nature of dental caries. Suitable for teenagers and adults.

Available from: Missing Link Press, P.O. Box 7062, Postal Station 'E', London, Ontario, N5Y 4J9.

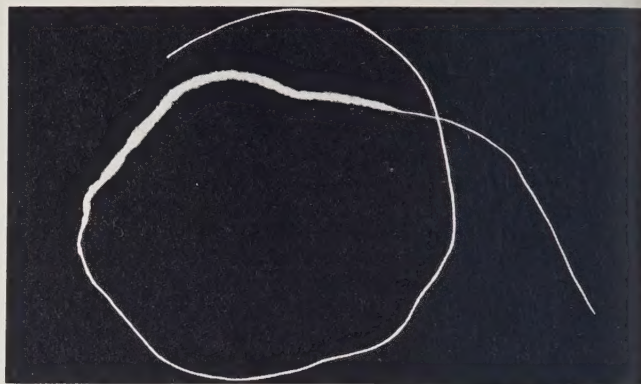
Price: single copies 50¢ each; 25-49 copies 20¢ each; 50-99 copies 15¢ each; 100 or more 10¢ each.

SUPERFLOSS

This precut dental floss is quite a super idea! This product combines a firm floss threader with a thicker soft foam strip to the regular dental floss. As a result, we have an excellent interproximal cleaning device for between and under crown and bridge work and orthodontic banding. The convenient firm threader eliminates the need for a loop threader while the thicker foam strip provides maximum cleaning in widened interproximal areas. The patient may carefully rinse the Superfloss to allow for reuse. Suitable for teenagers and adults.

Available from: Healthco (Canada) Ltd. Order through your local branch office - Calgary, Halifax, Ottawa, Toronto, Edmonton, Montreal, Quebec, and Winnipeg.

Price: approximately \$10.00 for 500.

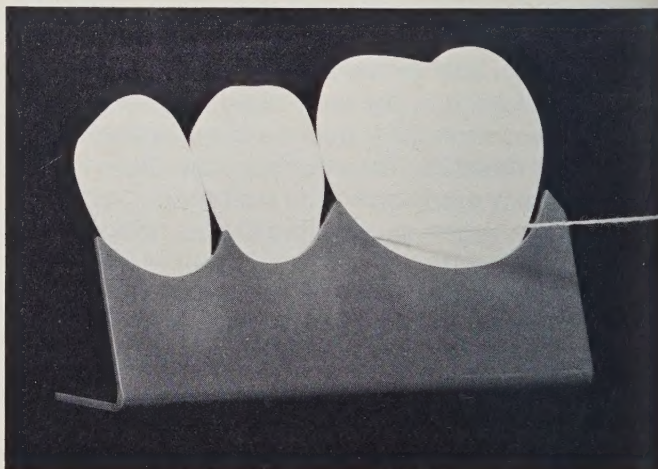


FLOSSING DEMONSTRATOR

The art of dental flossing can be easily demonstrated with the help of this educational aid which, among other things, allows you to emphasize how the dental floss slips into the sulcus when the floss is curved around the neck of the tooth. The brightly contrasting white and pink colours, durable plastic composition, as well as the large size of the model (4" x 8") makes this an excellent teaching tool for the clinical hygienist and for hygienists employed in public health units. Suitable for teaching all age groups.

Available from: Ontario Dental Hygienist Association, c/o Miss Helga Dettbarn, Education Chairman, 124 Edward Street, #321, Toronto, Ontario, M5G 1G6.

Price: \$20.00 plus postage.



ABSTRACTS

VANITY AS MOTIVATION IN RETARDED PATIENTS

Most oral hygiene programs for nonretarded individuals are based on the concept of plaque control with a consequent reduction in microorganisms that cause decay. This concept, however, is too complex for many retarded individuals; other motivating techniques have been developed as alternatives. We investigated the use of vanity as a motivator to induce improved oral hygiene behavior in mentally retarded adolescents and adults. The results indicated that this approach was the primary influencing factor in improved oral hygiene shown by the individuals studied.

Fifteen trainable mentally retarded persons were given plaque scores before and after training. Six training sessions were held during which the patients were shown how some of their vanity needs could be fulfilled through clean teeth. Short discussions were held and toothbrushing instructions were given. During the sessions, the patients were given typodonts that had a thick mixture of zinc phosphate and water applied to the teeth to simulate plaque. They were given toothbrushes to brush off the simulated plaque. Simultaneously, the training was verbally reinforced with the concept of how much more attractive teeth were when they were brushed free of plaque, and how much better the individuals would look when their teeth were adequately brushed. Magazines were also used to demonstrate the attractiveness of clean teeth. In addition, the institutional staff was taught how to continue the training program.

During the final session, another plaque index was obtained for each person and compared with the previous scores. The results of the post-training plaque scores demonstrated improvement in oral hygiene at $P .001$. Of the 15 persons participating in the study, 13 improved their plaque indexes, one score remained the same, and one worsened. It may be hypothesized that appeal to the individuals' vanity was the prime influence in improving their toothbrushing behavior. Peterson, Devereaux S.; Chiniwalla, Neelima; and Puddhikarant, Paninee. Mott Children's Health Center/Hurley Medical Center, Flint, Mich. The use of vanity to improve oral hygiene behavior in the retarded. *J Mich Dent Assoc* 60:436-466 Sept 1978.)

A FINE ARTS-DENTAL HYGIENE COMBINED DEGREE

A combination of dental hygiene and art brings together two of the most complementary of studies with many advantages for the dental hygienist who wants a bachelor's degree or who needs a master's degree for a teaching job.

The practicing and teaching dental hygienist must be able to perform with her hands exactly what her mind's eye perceives. This is known as hand-eye coordination. In the study of art, the hygienist will have opportunities to practice hand-eye coordination on something other than teeth and gingiva.

The practical side of artistic endeavor has another benefit for the hygienist — relief of stress. Dental hygienists are constantly dealing with tiny things: a tiny piece of calculus, the tiny tip of an instrument, a tiny tissue tab masked by pooled saliva and blood, found in the darkest distal portion of the mouth. All our work is done in cramped quarters. Consider the relief of working on a bronze sculpture five feet high, or painting a canvas five feet wide.

Not least among the benefits is the creation of works of art to enhance the beauty and comfort of the dental hygienist's working area, operatory, and reception room.

Considering all the benefits of a combined degree program in dental hygiene and fine arts, one is hard pressed to find any better combination of disciplines. (Hassell, Christiana F. 6204 9th Ave., NW, Seattle, Wash 98107. Fine arts/dental hygiene combined degree as an alternative to conventional programs. *Dent Hyg* 52:236-240 May 1978.)

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Answers to Self-Assessment Test

- | | | | | |
|------|------|------|------|-------|
| 1. a | 2. a | 3. a | 4. b | 5. a |
| 6. b | 7. d | 8. d | 9. c | 10. d |

THE MATTER OF LINDA KROL

Last year, Linda Krol, a registered dental hygienist in Torrance, Calif., opened her own office next door to her former employers, with their approval. She hired three other hygienists and a receptionist. As a self-employed owner of her own dental hygiene practice, she was "on her own" as a sole proprietor. In the view of her attorneys she was complying with California state law, which requires that a hygienist must work under the general supervision of a licensed dentist, since she was technically being supervised by each of the dentists who referred patients to her. A Los Angeles newspaper carried feature articles proclaiming that Krol was "now the boss."

By putting this new interpretation of state law into practice and by challenging the tradition that hygienists are part of the dental office team, Krol became a celebrity among dental hygienists all over the country. Her action inspired the American Dental Hygienist Association to pass a resolution proclaiming the right of hygienists to be primary providers of preventive services and, therefore, qualifying them to treat patients directly and to be primarily responsible for patient care.

Meanwhile, the State Board of Dental Examiners investigated the Krol matter, and scheduled a hearing to present accusations. Before the hearing opened, however, an agreement was signed in which Krol agreed to comply with the Dental Practice Act. Among other matters, the agreement stipulated that the name of every dentist for whom Krol performs hygiene services must be placed on each outside door of her facility; that, if Krol intends to perform dental hygiene services for additional dentists, she must provide the state board with their names; that the referring dentist must direct and supervise the hygiene services performed by Krol and shall exercise jurisdiction and control over her setting; and that any referring dentist shall register the Krol business address with the state board as an additional place of practice.

This agreement places the Krol issue back into its proper perspective. Little has changed. The Dental Practice Act regarding settings and supervision of hygienists has not been changed or stretched. Krol has succeeded only to the extent that she can bill patients directly, and that she now has her own business overhead.

The pertinent issues are protection for the patient, concern for the quality of service, and overall responsibility for treatment. The state Dental Practice Act functioned properly in the Krol matter.

The California Dental Association supports the ADA position that the reg-

istered dental hygienist is not qualified by virtue of curriculum, course content, or teaching methodology in dental hygiene education to become a primary provider. The dental hygienist curriculum is not designed to prepare individuals to practice without the supervision of dentists. (Blair Keith P. 6151 W Century Blvd., Suite 900, Los Angeles, 90045. Editorial: The Krol matter — in perspective. *J Calif Dent Assoc* 6:8 Sept 1978.)

PROFILE OF THE HYGIENIST

Dental Hygienists are serious about their work. The small number who change vocations indicates that they enjoy success and that their career expectations have been fulfilled. They find their work stimulating and they find personal satisfaction in their health care role.

This study covered graduates of the dental hygiene department of the University of Southern California who were licensed in that state. A questionnaire was mailed to 1,192 hygienists. Of these, 826 replied.

Responses indicated that the typical graduate is a married woman 32 years old with two or three children. Her husband is a dentist, physician, attorney, or businessman. She works in a private dental office three or more days a week and is a member of the national, state, and local hygienist associations. She finds her work engrossing and is well satisfied with her choice of career.

Approximately 70% of the respondents were younger than 40 years; this indicates that the size of the dental hygiene classes at the University of Southern California is increasing and that the profession is expanding. The fact that almost all of those surveyed are employed suggests that there is a continuing need for hygienists (Owens, Barbara A., and Martinoff, James T. Department of Dental Hygiene, University of Southern California School of Dentistry, Los Angeles, 90007. Profile of a dental hygienist. *Dent Hyg* 52:433-435 Sept 1978.)

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RELATIONSHIP OF PERSONALITY TRAITS AND PERIODONTAL DISEASE

A group of 50 patients over age 21 with at least five teeth in each quadrant were evaluated by Ramfjord's Periodontal Disease Index and by Podshadley's plaque index. Patients with a systemic disease or drug regimen which could influence the periodontium were excluded. Complete oral radiographic surveys were analyzed for bone loss and scored 0 for no bone loss and up to 3 when there was loss of two-thirds of the bone support. The Eysenck Personality Inventory (E.P.I.) was administered to evaluate extroversion-introversion and neuroticism-stability. The scores for the 42 subjects completing all tests strongly resembled those of a normal working class population with respect to age, neuroticism-stability and extroversion-introversion. Statistically significant relationships were found between introversion and plaque, and between introversion and periodontal disease, both clinical and radiographic. A significant correlation was also found between neuroticism and radiographic evidence of periodontal disease. Vogel, R.I., Morante, E.A., Ives, C., and Diamond, R. *Psychosomatics* 18:21, 1977.

Dr. Esther M. Wilkins
Dept. of Periodontology
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[†]Beiswanger, B.B., et al.: J. Dent. Child. 45:137, 1978.



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

FALL 1979 AUTOMNE

VOLUME 13, No. 3

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$10 per year in Canada and \$12 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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MEMBER PUBLICATION
AMERICAN ASSOCIATION OF DENTAL EDITORS
617 6/CN ISSN 0008-3380

A SOUND INVESTMENT

In the past, highly commendable hygiene services have been delivered to the public by technical, traditional hygienists - graduates of diploma programs. As we mature, we are recognizing the desire to venture forth from the single operator and take a critical view of dental hygiene, its' relationship to dentistry, and the delivery of hygiene services on a more global basis. I am overwhelmed by the impression that, generally, hygienists want to assume a more forceful and effective role on the dental health team. We may be willing, but are we ready? Do we have the expertise to back us up? Should we not have a body of professionally prepared hygienists as well as a force of technically prepared hygienists?

I believe that we desperately need hygienists with post-diploma education in order to deal with the problems and challenges we will encounter in our attempt to expand our roles and, in turn, attain greater job satisfaction. We need hygienists with baccalaureate degrees, masters degrees, and doctorate degrees, and we need these degrees in dental hygiene or established especially for dental hygienists.

The majority of hygienists wishing to continue their education beyond the diploma level have been guided into education, psychology, sociology, and basic science degree programs. All are worthy degrees, but are they worthy dental hygiene degrees? If a person is going to be a hygienist, would it be more beneficial for that person to train as a psychologist or to receive advanced training in psychology relating directly to dental

hygiene? With respect to the latter course, interest would be generated towards psychology as applied to hygiene, which could ultimately result in the progress of dental hygiene, rather than in basic psychology, resulting in the loss of valuable resource people to other fields.

Where can we get further training in dental hygiene? We have two alternatives in Canada; we can attend an American university, providing that we live within commuting distance to a school or that we are flexible enough to move there, or we can apply for one of a possible half dozen places in the B.Sc. in Dentistry program for dental hygienists offered by the University of Toronto, again, if it is convenient to transport yourself there. While we are extremely grateful that educators at the University of Toronto initiated this program, it can hardly be expected to service the entire country.

If we are to grow and mature into a respectable profession, we require people with problem-solving capabilities who are able to approach future challenges in a responsible, diplomatic, and scientific manner, and who have the needs of the dental hygiene community at heart.

Until we do see more post-diploma programs in dental hygiene, one positive action towards creating a body of professionally prepared hygienists is to contribute annually and generously to the CFDE fund. A contribution to education is an investment in your future; I can think of no better return for your dollar!

SN

EDUCATIONAL EXCHANGE PROGRAM

Assistant Professor Marg Miller, Pre-clinical Dental Hygiene Course Coordinator, University of Manitoba, participated in a recent Faculty Exchange Program with the University of Minnesota at Duluth. Prof. Miller assumed the clinical and laboratory responsibilities of Mrs. Linda Saline of the Duluth program, while Mrs. Saline followed a similar format at the University of Manitoba. In addition to the Faculty interchange, 4 dental hygiene students from Duluth exchanged places with 4 students from the University of Manitoba School of Dental Hygiene. The students attended lectures, laboratories, and clinics as normally scheduled. Although the exchange program was short, January 21-26, 1979, it was felt that a basic understanding of each of the University program's operations was achieved.

(Reprinted from the Spring '79 ACFD/AFDC Newsletter.)

ASSOCIATION OF CANADIAN FACULTIES OF DENTISTRY DENTAL HYGIENE SECTION EXECUTIVE MEET IN SASKATOON

The executive of the Dental Hygiene Section met during the 1979 ACFD/AFDC House of Delegates meeting this June in Saskatoon. The primary concern of the Executive, at this time, was to promote the continued investigation of the topic *The Role of the University in Dental Auxiliary Education*.

A recommendation asking for the continued support of the house to address the topic via position papers and a survey to all dental auxiliary programs and deans of faculties of dentistry in Canada was endorsed by the House of Delegates during their meeting. It is the intention of the section to use this information for the development and documentation of a position paper to eventually be placed before the house for discussion and approval.

Linda Zambolin
Secretary/Treasurer
A.C.F.D. Dental Hygiene Section

THE YEAR OF THE CHILD CELEBRATES THE EXCEPTIONAL CHILD

Federal initiatives for the exceptional child in conjunction with the Year of the Child include the following:

1. The Promotion and Prevention Directorate of Health and Welfare Canada is developing and promoting an information booklet for expectant parents on the hazards of tobacco, alcohol and drugs. The statistics, being adapted to a national basis from a Quebec research project, indicate, for example, that 40 per cent of pregnant women in Quebec smoke regularly. The booklet will be distributed to women in prenatal classes. For further information contact Charlotte Billard (613) 996-6909.
2. The Mental Health Division of Health and Welfare Canada is reporting on the proceedings of the February symposium held on Biomedical Causes of Mental Retardation. An edited version will be available upon request. For further information contact Brenda Wattie (613) 995-0166.
3. The Children's Environment Advisory Service of Central Mortgage and Housing Corporation is sponsoring research on play spaces to accommodate handicapped children, as well as normal children. James Melvin, Department of Landscape Architecture, University of Manitoba, will conduct the study and produce a model integrated playground plan. For further information contact Dr. Satya Brink or Polly Hill (613) 746-4611.

FUTURE JOURNAL FRONT COVERS

We invite you to contribute submissions for future front covers of *The Canadian Dental Hygienist/L'Hygieniste Dentaire du Canada*. We will consider original colour photographs, slides graphics, or drawings depicting any aspect of dental hygiene (person, place, or thing). All submissions will be acknowledged, but not returned unless specifically requested. Please submit material by November 15, 1979 to:

Stephanie Nagle
1015 Harrison Avenue
London, Ontario
N5Y 2V1

MIT RESEARCH FINDS COCOA INHIBITS STEP IN PLAQUE PROCESS

There could be an oral health benefit from eating chocolates, the nonsugared kind at any rate, according to a Massachusetts Institute of Technology research team.

The team has reported, and the chocolate manufacturers are publicizing, that cocoa powder inhibits the synthesis of dextrans, high-glucose polymers formed by the metabolism of sucrose by streptococci which facilitate the formation of dental plaque.

Graduate student Vincent J. Paolino, who worked under the direction of Dr. Sanford A. Miller, director of MIT's Training Program in Oral Science, reported the team's findings in a paper presented at a meeting of the International Association for Dental Research. He said the MIT study concluded that there is a heat-stable, water-soluble chemical component of cocoa that exerts an inhibitory effect on total dextran synthesis of *Streptococcus mutans*.

"The mechanism of this action is a reduction in the synthesis of plaque as a result of inhibition of dextransucrase activity," Mr. Paolino said in his paper. Dextransucrase is the enzyme principally responsible for the synthesis of dextran from sucrose.

Mr. Paolino added that there is a dose-related decrease in dextransucrase activity with increased cocoa concentrations.

The *in vitro* study was part of a series of research projects being funded by the Chocolate Manufacturers Association of the USA to determine whether cocoa and chocolate contribute to the development of dental decay. Earlier *in vivo* studies had discovered the cariostatic effect of cocoa powder that was investigated by the MIT group.

It is not known the degree to which the decrease in dextransucrase activity may counteract caries-promoting effects of chocolate carbohydrates or added sugars.

WAS THIS JOURNAL CORRECTLY ADDRESSED?

Every copy of the journal returned to us costs the Canadian Dental Hygienists' Association approximately fifty cents. If you are moving permanently, please let us know two months before changing your address. If the address label on this publication is not correct, please clip it, then paste it in the blank provided and mail this entire coupon to us, including your new address! Thank you. (Any returned journals marked "moved" or "address unknown" will not be remailed until the member submits a change of name and/or address.)

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Mail to: Jo Gardner, CDHA Membership Chairman
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NEW FLUORIDATION ADVERTISEMENTS PREPARED

The Canadian Dental Association has a new series of seven fluoridation advertisements designed for newspaper use in any community contemplating a fluoridation ballot.

CDA advises us that the advertisements may also be printed as flyers for direct mail use and as handouts at meetings. Each one of the advertisements contains a return coupon so that fluoridation campaign organizers can build up community support.

The advertisements may be ordered by contacting Miss Marie Cosgrave, Public Information Officer for the CDA, or by getting in touch with Lloyd Bowen, CDA Fluoridation Officer, c/o The ODA in Toronto. The CDA has also published three new leaflets promoting fluoridation, and copies may be obtained from either source.

NCI OFFERS NEW BOOKLET ON ORAL CANCER TREATMENT

A pamphlet on mouth cancer is now being offered in the National Cancer Institute's new series of "What you need to know about . . ."

Designed specifically for cancer patients and their families rather than for the general public, the pamphlet (DHEW Publication No. NIH 79-1574) covers symptoms, diagnosis, treatment, rehabilitation, emotional problems, research, and questions to ask the doctor.

For further information, contact Office of Cancer Communications, National Cancer Institute, Bethesda, Md. 20014.

TEXTILE WORKERS, NEWSPAPER PRESSMEN HAVE HIGHER ORAL CANCER RISK: US STUDY

Textile workers and newspaper press operators have been identified by federal health agencies as being at increased risk of developing cancers of the mouth and pharynx.

The two occupational groups were included in a report of cancer-causing substances in foods, consumer goods, workplaces, and the environment. The report was prepared by the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), and the Consumer Product Safety Commission (CPSC), which together form the Interagency Regulatory Liaison Group.

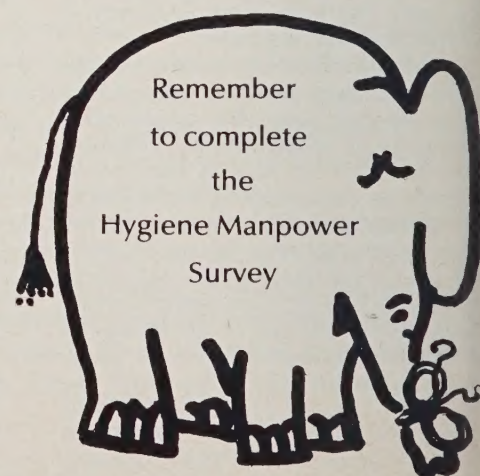
Their report notes that 26 substances are known to cause cancer in humans, based upon direct observation of exposed population groups. In addition, 15 occupations have "excess cancer incidences," though the substances causing the disease in these groups have not been identified.

Textile workers and newspaper press operators are included in the latter category, with excess oral cancer incidences of 77% and 125%, respectively.

The interagency report is entitled *Scientific bases for identifying potential carcinogens and estimating their risks*. It represents the first time that key regulatory agencies have articulated in one report methods for identifying carcinogens and assessing the dangers they pose to people.

The document was prepared with assistance from senior scientists at the National Cancer Institute and the National Institute of Environmental Health Sciences.

Since the report was completed, the Food and Safety and Quality Service has joined the liaison group; the five agencies have agreed to pool information and resources in controlling toxic substances.



CALL FOR TABLE CLINICS

1980 CDHA Convention and Scientific Program
Halifax, Nova Scotia
July 15, 16, 17

The 1980 CDHA Convention Committee invites members to submit topics for table clinic presentation to take place during the 1980 Convention. As this is an opportunity to share information with other members of your profession, we encourage as many as possible to take advantage of this avenue for information sharing.

Deadline for submission of topics is MARCH 1st, 1980.

Please address your application to the following:

Linda Zambolin
209 Forrest Building
Dalhousie University
Halifax, Nova Scotia

APPLICATION: C.D.H.A. 1980 TABLE CLINIC PRESENTATION

DATE: _____

NAME: _____

ADDRESS: _____ PHONE: _____
office home

TOPIC: _____

Please check the following if you will require them:

- ☐ Electrical outlet
☐ Slide projector

- ☐ Screen
☐ Other (Please specify)

BOOK REVIEW

ORAL DISEASE

Edited by C.E. Renson. First edition, 96 pages with 215 full-colour illustrations. \$11.50. Fort Lee, New Jersey. Update Publications Ltd., 1978.

This well organized reference book is based largely upon a series of articles which originally appeared in Update. The purpose of the series was to give dental students, operating dental auxiliaries, and medical practitioners a concise guide of dental and oral conditions. The dental auxiliary will find this reference useful in the recognition of oral signs of disease and as a patient education aid.

Most of the authors of the original series were members of the London Hospital Medical College Dental School.

Numerous colour illustrations are featured. Em-

phasis is on early detection, prompt referral, and subsequent management of conditions. Detailed methods of treatment are not included.

Of five sections, three provide vivid reminders of common and uncommon oral conditions of the mouth, jaws, and throat. Section I and II discuss dental disease and are more suitable for the medical practitioner, but the photographs are practical visual aids for patient education - another reason to keep this book within reach when working.

This reference is primarily a clinical identification guide; alternative material should be consulted when more complete description of oral diseases and methods of treatment are required.

Susan Swanton, R.D.H., B.Sc.D.
Ridgetown, Ontario



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SELF-ASSESSMENT TEST

The third self-assessment test in the 1979 series further reviews dental anatomy, focusing specifically on paedodontic dental anatomy. Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 60 for the correct answers.

1. Primary dentin formation
 - a) occurs throughout the life of a tooth
 - b) occurs in primary teeth only
 - c) is a function of the ameloblasts
 - d) ceases following complete root development
2. A pit-like depression on the dorsum of the tongue, which indicates the area where the thyroid gland originated during embryonic formation, is the
 - a) median sulcus
 - b) lingual follicles
 - c) foramen cecum
 - d) foramen magnum
3. Thumbsucking, as an established habit, can cause
 - a) a class III incisor relationship
 - b) a class II division I incisor relationship
 - c) an openbite
 - d) both B and C
4. The "ugly duckling stage" is commonly found in children between the ages of
 - a) 2 years to 5 years
 - b) 6 years to 12 years
 - c) 8 years to 11½ years
 - d) 1 year to 12 years
5. The follicles of developing succedaneous teeth are in what relationship to the deciduous teeth?
 - a) the anteriors are directly beneath the root, and the posteriors are in the furcation
 - b) the anteriors are lingual to the roots, and the posteriors are in the furcation
 - c) the anteriors are in the furcation, and the posteriors are lingual to the roots
 - d) the anteriors and posteriors are both directly beneath the root
6. The last anterior tooth of the permanent dentition to erupt is the
 - a) maxillary lateral incisor
 - b) mandibular lateral incisor
 - c) maxillary canine
 - d) mandibular canine
7. At age 9, the child's mouth
 - a) is in the deciduous dentition stage
 - b) shows that all deciduous teeth have been exfoliated
 - c) shows that all permanent teeth, except second and third molars, have erupted
 - d) shows that all permanent incisors have erupted
8. At age 7, the fifth tooth from the midline in the mandibular arch
 - a) is in the process of exfoliation
 - b) is a deciduous first molar
 - c) is a permanent second premolar
 - d) has a distal contact with the permanent first molar
9. The last deciduous tooth to erupt
 - a) is the maxillary canine
 - b) is a succedaneous tooth
 - c) is erupted shortly after birth
 - d) is the maxillary second molar
10. If deciduous teeth are lost prematurely, the result is often
 - a) drift to the distal of the permanent first molar
 - b) anterior crowding of the permanent dentition
 - c) ankylosis of the permanent molars
 - d) resorption of the permanent first molar roots

Bonnie J. Trodden, R.D.H., B.A.
Instructor, School of Dental Hygiene
University of Manitoba.



OCTOBER IS *cfde/fced* MONTH

OCTOBER IS CFDE MONTH, the month when dentists and dental hygienists in Canada are asked to support their profession's educational needs by contributing to the Canadian Fund for Dental Education. The aim of the CFDE is embodied in its title. To elaborate, the Fund seeks to improve the quality of dental and dental auxiliary education and research throughout Canada and in following this avenue, it seeks in the longer term to improve the quality of dental care for all Canadians.

At a recent meeting the Canadian Fund for Dental Education's Board of Trustees approved grants of over \$116,000 that will benefit dental education and research, both now and in the future.

FELLOWSHIPS

As in the past, teacher training fellowships for dentists and dental hygienists accounted for a large part of the total grant budget.

Six dentists who were awarded CFDE fellowships last year reapplied for help to complete their teacher training. All had made excellent progress to date. Consequently, three were awarded full fellowships of \$5,000 each and three half fellowships of \$2,500 each. Ten dentists applied for CFDE fellowships for the first time. Of these two were awarded full fellowships and three half fellowships of \$2,500 each. These awards add up to a total of \$40,000.

This year's recipient of CFDE's special award of \$1,500 for an existent dental teacher is Dr. H.G. Cross of the University of Manitoba. His proposed study program consists of a one month's visit to the Great Ormond Street Hospital for Sick Children to study methods of cleft-palate management.

Eight dental hygienists applied for CFDE teacher training fellowships and six were awarded a fellowship of \$1,000 each. The 1979 dental hygiene recipients are: Anne Appleby of Halifax, Nova Scotia; Francine Desroches of Cartierville, Quebec; Sylvie Fréchette of Laval-des-Rapides, Quebec; Frances Lawson of Vancouver, British Columbia; Rosemarie Lum of Toronto, Ontario; and Janice Pimlott of Richmond Hill, Ontario.

All CFDE fellowship recipients sign an agreement that they will repay the full amount of their award plus interest, if for any reason they do not accept a teaching position in Canada upon completion of their training.

\$116,000 FOR DENTISTRY IN 1979

\$ 41,500	- Teacher training fellowships for dentists
\$ 6,000	- Teacher training fellowships for hygienists
\$ 2,500	- Radiation barrier research
\$ 7,400	- P.G. Anderson Memorial (funded by special contributions)
\$ 10,000	- Student table clinic program and students' conference
\$ 2,200	- Dental aptitude - personality study
\$ 14,000	- Research project funded by a Hospital for Sick Children Foundation grant
\$ 9,600	- Special teacher training assistance provided by the Lorne E. MacLachlan endowment fund
\$ 4,000	- Teaching conference on clinic administration in dental schools
\$ 5,000	- Scholarships for dental students
\$ 10,000	- Grants to dental schools
\$ 4,000	- Other projects
\$116,000	- TOTAL GRANTS

WHAT HAS CFDE/FCED DONE FOR DENTAL HYGIENE?*

CFDE scholarships for dental hygienists (subsequently replaced by fellowships)	\$ 5,400.00
CFDE teacher training fellowships	\$31,700.00
CFDE grant for clinical dental hygiene educators workshop held June 1976	\$ 2,650.00
CFDE grant for speaker at ODHA Convention 1978 (special grant from Warner-Lambert Canada Ltd.)	\$ 2,451.00
CFDE grant for dental auxiliary conference held in Banff in 1974	\$ 6,000.00
TOTAL GRANTS	\$48,201.00

*as of the end of 1978.

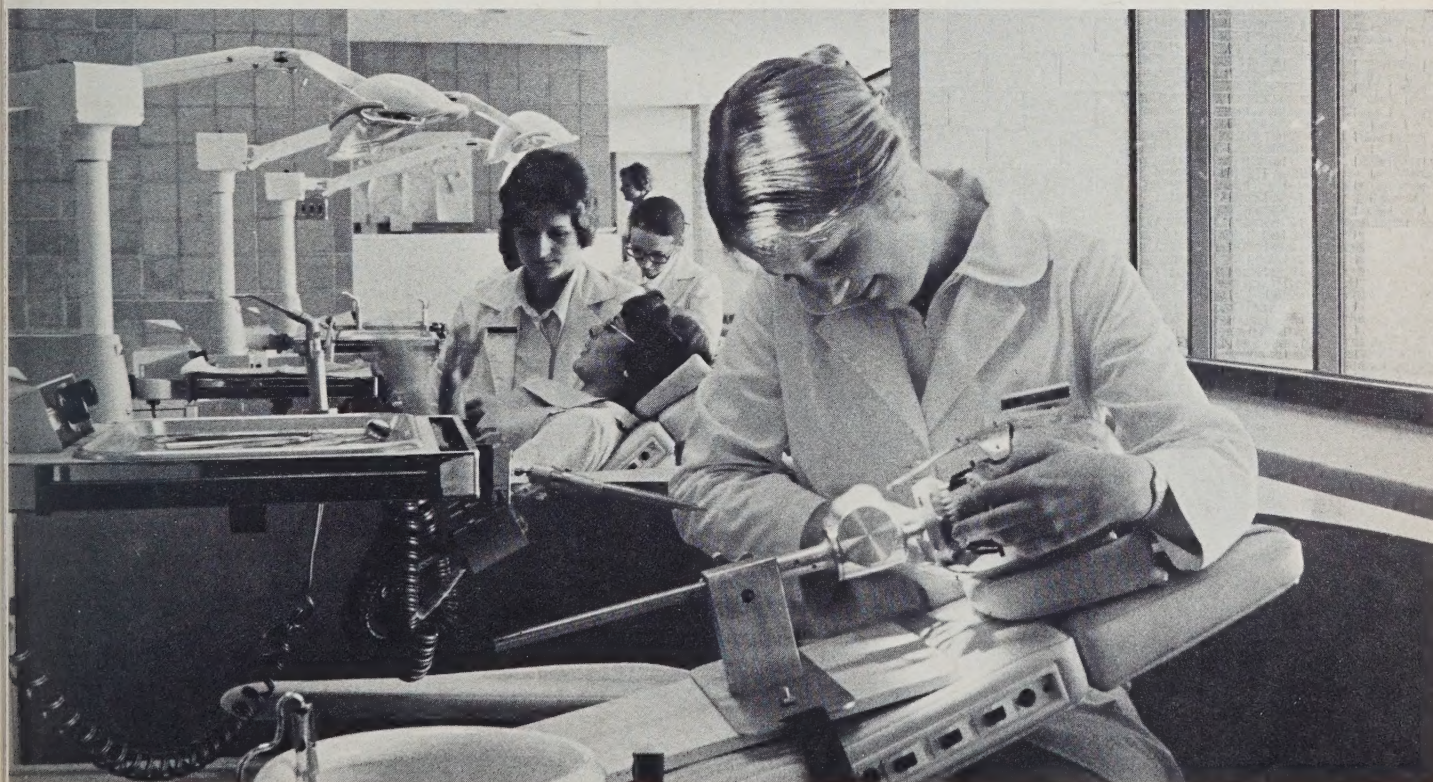
*More, lots more, can be done and will be
— if money is available.*

The Canadian Fund for Dental Education has a vast stake in all aspects of dental and dental auxiliary education and research, and the CDHA sincerely appreciates their encouragement and support which have been influential in the growth and achievements of the dental hygiene profession in Canada. With increasing support, it may be hoped that it will be able to, in even more productive ways, encourage programs that will ultimately help us to achieve our common goal of better dental health for all Canadians.

AN INVESTMENT IN PEOPLE

The CFDE has recognized that the most valuable of all capital is that invested in human beings and it is hoped that you too will show this same interest during OCTOBER IS CFDE MONTH. All contributions from dental hygienists are held in a special account for their benefit. To this fund is added interest on CDHA's trust fund, an annual contribution from the Proctor and Gamble Company and donations from the national, provincial and local dental hygiene organizations. Although October has been designated as the special month for contributions, they are most welcome at any and all times of the year. All gifts are tax deductible and are acknowledged with thanks by the CFDE. Send your contribution marked "dental hygiene" today to the:

**Canadian Fund for Dental Education
Suite 205, 44 Eglinton Avenue West
Toronto, Ontario M4R 1A1**



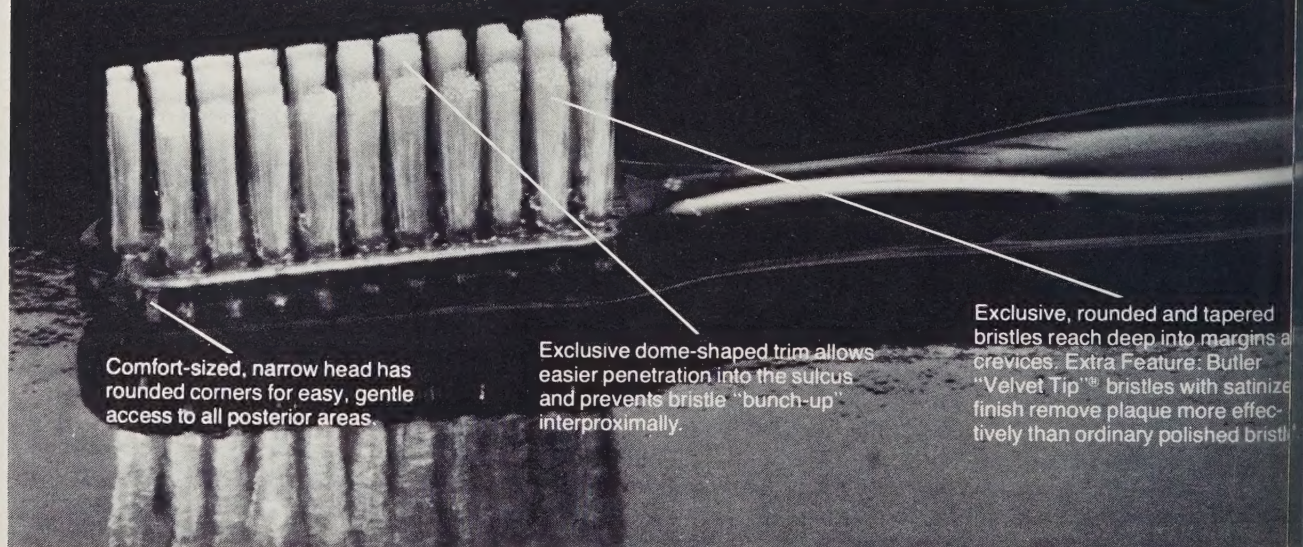
(Courtesy of the R.C.D.S. of Ontario and Algonquin College, Ottawa.)

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 Baker, J.C., Whitby, Ont.
 Barenholtz, M.E., Downsview, Ont.
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Exclusive dome-shaped trim allows easier penetration into the sulcus and prevents bristle "bunch-up" interproximally.

Exclusive, rounded and tapered bristles reach deep into margins and crevices. Extra Feature: Butler "Velvet Tip"™ bristles with satinized finish remove plaque more effectively than ordinary polished bristles.

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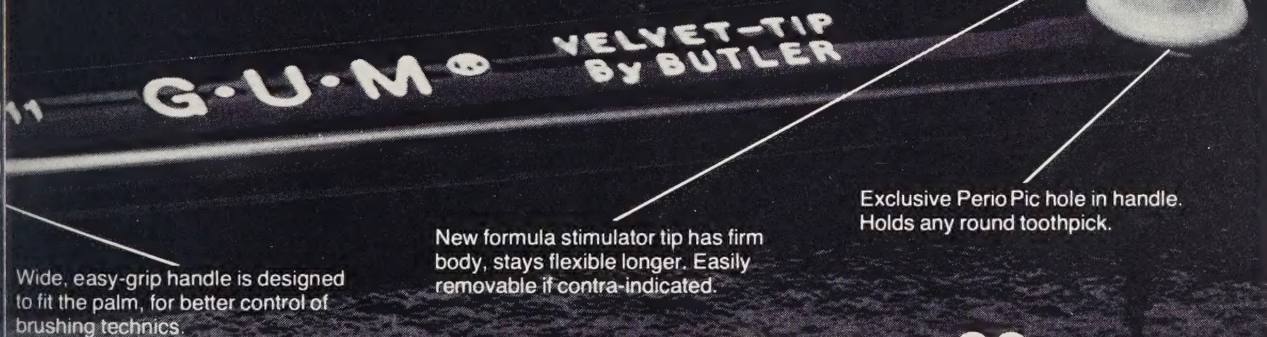
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First to recognize the importance of brush design for effective oral hygiene, Dr. John O. Butler pioneered the concepts that led to the development of today's modern G-U-M toothbrush. The dome-shaped trim with its rounded, tapered bristles reaches effectively into the sulcus. Satinized ends of the nylon filament are velvet soft, and exceptionally efficient plaque removers.

Butler offers a selection of toothbrushes in Adult, Tween and Junior sizes. Next time you recommend or dispense a brush, choose one from the professional quality Butler line.



Wide, easy-grip handle is designed to fit the palm, for better control of brushing techniques.

New formula stimulator tip has firm body, stays flexible longer. Easily removable if contra-indicated.

Exclusive Perio Pic hole in handle. Holds any round toothpick.

* An Evaluation of the Effectiveness of Various Toothbrush Bristles to Remove Dental Plaque
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KISS ME . . . I FLOTTED

The ever innovative and dedicated Dr. Sam Green, Director of Community Dentistry for Etobicoke, has developed two more programs for reaching and motivating children and young adults.

The Tooth Fairy Society Of Canada is directed at young children who are losing primary teeth. Any child who submits a cavity-free tooth receive a free preventive kit, a membership card and other goodies. Honorary members of the Society include U.S. President Jimmy Carter and his daughter Amy, King Clancy and the former Minister of Health, Dennis Timbrell.

Teeth can be submitted or information obtained from the Tooth Fairy Society, c/o Etobicoke Health Dept., Clinic Centre, Etobicoke, Ontario, M9C 2Y2.

Older patients may become "Flossing Fellows" of the Dental Gum Massage Institute of Canada. The Institute's purpose is to motivate and inform teenagers and adults about the causes, prevention and treatment of periodontal disease. One becomes a Fellow by sending in two box tops (hopefully from preventive oriented products) to the aforementioned address. Shortly thereafter they will receive a free sulcus brush, a "Kiss me . . . I flossed" button, a "Don't Bug Me . . . I'm Flossing" door knob sign and a preventive information kit.

(Reprinted by permission from the *Ontario Dentist*.)

USDA ISSUES BAN ON SCHOOL "JUNK FOOD" SALES

A revised proposal to ban the sale of certain "junk foods" in the nation's schools beginning next Jan. 1 was announced by the U.S. Department of Agriculture in the July 6 *Federal Register*.

Acting under authority granted through 1977 legislation, the Department earlier proposed to regulate the sales of such foods in schools but withdrew that proposal and went back to the drawing boards. The new proposal, allowing public comment through Sept. 6, would bar the sale in most schools of candy, chewing gum, frozen desserts and other foods of "minimal nutritional value" until after lunch is served.

"In publishing this proposed rule, we are not suggesting that these foods should never be eaten by students," the Department said. "Rather, we are restricting their sale during certain hours of the school day in order to preserve the nutritional integrity of federally subsidized school meals."

CORRECTION

The ODHA legal counsel is John Banfill, not Banliff, as stated in the Summer 1979 issue of this journal.

NATIONWIDE

HEALTH AND WELFARE, CANADA, PUBLICATIONS AVAILABLE FREE OF CHARGE

DENTAL X-RAYS

The Radiation Protection Bureau of the Department of National Health and Welfare, Canada has just produced a three page statement on dental x-rays. It provides answers to the following questions: What are x-rays? What happens in a dental x-ray examination? Are x-rays safe? When should dental x-rays be taken? Safety standards for dental x-ray machines. What else can be done to reduce risk? In its advice to the dental patient, it states, "As a patient you should not insist on an x-ray, let the dentist be the judge. On the other hand, as a patient, you should question the need for an x-ray prior to a clinical examination". Two significant recommendations to dentists are that dental x-rays should not be taken without a prior clinical examination and should not be a standard part of every dental examination. It also recommends that patients should be provided with a shielded apron before an x-ray is taken.

Title: *Dispatch "Dental X-Rays", No. 43, Spring, 1979*
"Les Rayons X, en Dentisterie".

Source: Educational Services,
Health Protection Branch,
Department of National Health
and Welfare,
Ottawa, Ontario K1A 1B7

DENTAL HEALTH: AN INSTRUCTIONAL GUIDE, K-12

This teacher's guide on dental health was produced by Health and Welfare in an initial evaluation edition in March, 1979. During the 1978-79 school year, it has been tested and evaluated by dental public health personnel and teachers. The teachers expressed a need for such a guide and found the evaluation edition useful, aside from a few recommendations for improvement. The dental public health personnel who reviewed the guide also identified areas for improvement. The department plans to revise the guide during the 1979-80 school year. The revised guide will be available in sufficient copies for all concerned with dental health education in the schools. Limited quantities of the guide are available in both French and English for dental hygienists who

teach dental health education in the school systems or who teach dental hygiene students.

Title: *Dental Health: An Instructional Guide, K-12, evaluation edition, 1978/*
La santé dentaire, Guide pédagogique

Source: Health Services and
Promotion Branch,
Health and Welfare, Canada,
Ottawa, Ontario K1A 1B4

HINTS FOR HEALTHY TEETH

This is a bilingual pamphlet produced by the Department of National Health and Welfare for inclusion with the April, 1979 Family Allowance Cheques which were sent to approximately 3.5 million mothers in Canada. Practical advice for parents to ensure the dental health of their children is provided.

Title: *Hints for Healthy Teeth/*
Conseils pratiques pour
de belles dents

Source: Information Directorate,
Health and Welfare, Canada,
Ottawa, Ontario K1A 0K9

BRUSH UP YOUR SMILE!

This pamphlet was produced for the Family Allowance Cheque Insert Program, August, 1975. The pamphlet has been reprinted and is available in quantity.

Title: *Brush Up Your Smile!*
Souriez à Belles Dents!

Source: Information Directorate,
Health and Welfare, Canada,
Ottawa, Ontario K1A 0K9

Mrs. Sharon B. French, R.D.H., M.S.
Ottawa, Ontario

Answers to Self-Assessment Test

- | | | |
|-------|------|------|
| 1. d | 2. c | 3. d |
| 4. c | 5. b | 6. c |
| 7. d | 8. d | 9. d |
| 10. b | | |

PRESENTING PREVENTION

Contributions to this column, including personal creative dental health ideas, are welcomed. Please send them to: Helga Dettbarn, 124 Edward Street, #321, Toronto, Ontario, M5G 1G6.

CONSUMERS GUIDE TO PERIODONTAL DISEASE

A "Consumers Guide to Periodontal Disease" has been published by the American Academy of Periodontology as part of its public information program.

The "Consumers Guide" alerts the public to the major signs and symptoms of gum disease, describes the measures that the consumer can take to prevent gum problems, and details the role of the dental professional in the care of periodontal disease.

Single copies of the "Consumers Guide" will be provided, free of charge, to individuals who send a stamped, self-addressed envelope to Dept. CG, American Academy of Periodontology, 211 E. Chicago Ave., Room 924, Chicago, IL 60611.

Multiple copies may be purchased by sending your check or money order, made payable to AAP, along with your request. 50 copies, \$3.00; 100 copies, \$5.00; 500 copies, \$20.00; 1,000 copies, \$35.00.

BRIDGE CLEANING DEMONSTRATION

This three dimensional instructional aid will assist you in motivating patients to clean *under* their bridgework. Compliance in maintaining oral hygiene around and beneath crowns should improve as patients are given a how/where/why instruction with this model. A three-unit bridge and one free-standing tooth is simulated by this model allowing floss to be swept under the centre tooth of the bridge. This 5" x 10" demonstrator is an excellent tool for all dental practices, particularly those specializing in crown and bridge dentistry, and for any teaching institution. It is constructed of brightly contrasting white and pink durable plastic.

Available from:

Ontario Dental Hygienists' Association,
c/o Miss Helga Dettbarn, Education Chairman,
124 Edward Street, #321, Toronto, Ontario M5G 1G6.

Price: \$25.00 plus postage.

TOOTHBRUSH REVIEW*

The four toothbrushes reviewed below are produced by: 1. Johnson & Johnson Co.; 2. Oral B - Cooper Laboratories; 3. John O. Butler Co.; and 4. Py-co-pay-Block Drug Co.

Brush	Characteristic	Advantages	Disadvantages
1. Reach	handle	firm grip, angulated	no hole for perio pik or rubber tip
	bristle head	short length	five rows, very wide
	bristles	two choices: soft or medium	
2. Oral B-35	handle	hole for perio pik	square head end
	bristle head	medium length, compact four row width	
	bristles	one choice: soft to medium	
3. Butler 211	handle	good grip, hole for perio pik and for rubber tip, rounded head end	
	bristle head	very short length, three row width	
	bristles	one choice: soft	
4. Py-co-pay	handle	good grip, rubber tip, rounded head end	
	bristle head	three row width	very long length
	bristles		one choice: fairly firm

*conducted by Helga Dettbarn

Dental Hygiene as a Female Dominated Semi-Profession

LYNN M.G. JONES, R.D.H., M.A.

The author is currently the Coordinator of the Dental Assisting and Dental Hygiene Programs at George Brown College of Applied Arts and Technology in Toronto, Ontario.

This address was given at a seminar on "Supervision: Past, Present and Future" sponsored by the Ontario Dental Hygienists Association in March, 1979.

Dental hygiene is a comparatively new occupation and one which has received little attention by researchers in spite of its unique characteristics. As partial fulfillment of my M.A. program I investigated the career patterns of dental hygienists in Ontario. A substantial portion of my work involved a comprehensive review of the legal history and the sociological status of hygienists in this province.

This information is relevant to today's seminar on supervision since it helps to explain our position and account, in part, for the treatment which we receive from our licencing body, government agencies, our employers, and lay people in general. It might also make you question the necessity or appropriateness of this situation.

During my presentation, I will explain why dental hygiene is considered to be a semi-profession and how it became a predominantly female one. I will also make some comments on what it means for hygiene to be viewed by others as being a predominantly female semi-profession.

Dental Hygiene as a Semi-Profession

When I am using the term semi-professional this morning, I am speaking from a theoretical perspective. It does not infer a less capable or less conscientious approach to one's work. It does infer, however, that there are differences which should be acknowledged and taken into consideration when one is talking about a semi-profession or a profession.

Analysis of the established professions - law, medicine and the church - would reveal seven characteristics.¹

1. Autonomy, self-regulation, and self-control are integral characteristics of a profession. They are expressed in the following ways - access to the profession is controlled through certification and licencing requirements; boundaries of their special sphere of activity or competence are defined (a form of monopoly); there is resistance to supervision, particularly by someone from outside the profession; and there is a disinclination by professionals to criticize one another publicly and a preference for dealing

privately rather than publicly with members who may deviate from approved ways of behaviour.

2. Professions are related to the central values of society, for example, law and medicine are related to such basic values as justice and health. Professionals are often concerned with matters of life and death.
3. There is a systematic body of theory and esoteric, abstract knowledge. The professional's claim to expertise rests upon his presumed mastery of this body of knowledge.
4. The training period involves extensive study of highly specialized knowledge, with a strong emphasis on acquiring the ability to manipulate ideas and symbols rather than (and sometimes in addition to) things and physical objects.
5. Professional groups emphasize the ideal of service to clients and public as their primary goal and as part of their ideology. Self-interest and the desire for monetary gain are not desired norms. An expression of this factor can be seen in the prohibition against advertising among physi-

cians, lawyers, and dentists. The implication is that the professional's dedication to his calling and concern for his client preclude the possibility of self-serving behaviour that might be to the detriment of the client.

6. There is a strong commitment of members to the profession and a tendency to view the work as a long-term, if not a life-long, commitment.
7. There is a professional community with a sense of common identity and common destiny, as well as the possession of a distinctive culture. These shared values and norms may extend to control of non-work life as well and influence choice of leisure time activities, political orientations, and interpersonal relationships.

Examination of the characteristics of dental hygiene will demonstrate that it falls into another category, namely a semi-profession. The most important differentiating characteristic is that dental hygienists have never been autonomous.

Going back into the legal history of dentistry and dental hygiene in Ontario we find that the enactment of "An Act Respecting Dentistry" by the Legislature of the Province of Ontario in 1868 permitted incorporation of the Royal College of Dental Surgeons of Ontario (R.C.D.S.). The main function of the College was to license those whom it judged competent to practise dentistry.²

Auxiliaries were employed by dentists at this time. As early as 1919, the R.C.D.S. sponsored a course to train dental nurses at the Faculty of Dentistry, University of Toronto. It was accepted that dentists were performing many routine procedures that could be done just as efficiently by a less highly trained person. The need for such auxiliaries became even more imperative as the shortage of dentists increased with the demands of World War II.³

Dentists had traditionally performed all inter-oral services, while auxiliaries were limited to activities outside the mouth. Therefore, it is not surprising that Ontario dentists were reluctant to break with tradition, even though the United States had pioneered the way by developing an auxiliary called a dental hygienist. The first American dental hygienists had graduated in 1915 from the Fones Dental Clinic in Bridgeport, Connecticut.¹⁴ In reviewing the American history and the status of the traditional dental hygienist, Wilma Motley states that:

The original concept of the dental hygienist was that she would be an educated, well-trained woman to scale and polish the patient's teeth and educate him in home care procedures, with special emphasis on prevention of dental disease in children. In addition to providing necessary

preventive oral health services to the patient, this would provide the dentist with more time to perform the restorative functions for which he was trained.⁵

It was not until 1947 that the Executive Committee of the R.C.D.S. recommended that a course be instituted to train dental hygienists in Ontario.⁶ The recommendation was accepted, and an Act was passed allowing the Board to make regulations providing for the establishment and control of a group to be known as dental hygienists.

In the initial Regulations, dental hygienists were clearly defined as a subordinate body, paying annual registration fees to the R.C.D.S. Most of the administrative duties concerning them were to be carried out by a Registrar-Secretary appointed by the R.C.D.S. Dental Board.⁸ Dental hygienists have been strictly controlled and regulated in that fashion since 1947.

Why did dental hygiene become a predominately female occupation, whereas other dental auxiliaries, such as dental technicians and denture therapists are generally male?

The development of dental hygiene by dentists is consistent with the pattern of initiation of auxiliary occupations by professionals. One prominent sociologist made the following comments about this process.

... To the extent that some part of the professional's knowledge becomes so routine that it can be mastered and applied by a secondary occupation with much less training, such ancillary occupations do develop, but they are harnessed to facilitate the work of the professional. They are given what Everett C. Hughes calls the "dirty work", the tedious, less interesting, preparatory, or cleaning-up tasks.

... Often, indeed, such helping jobs are even defined legally as subordinate, in that individuals in them are not permitted to practice except under professional supervision.⁷

Dentists openly admit the nature of hygiene work. Dr. Wickham, in supporting the need for dental hygienists in New Zealand, stated that: "For the profession it will mean a reduction of some of the more monotonous aspects of our work thus enabling us to concentrate on work commensurate with our training."⁸

The training period for dental hy-

giene is comparatively short, approximately two years, and the skills learned relate to those specific procedures defined by the dental profession. For example, the dental hygienist may place, finish and polish "certain" restorative materials, "after" the dentist has prepared the cavity. They may perform a preliminary examination of the oral cavity and record their clinical findings. However, although a dental hygienist may locate and record on a clinical chart the presence of a cavity in a tooth, she would be faulted if she actually told a patient that the cavity was present - that would be viewed as a diagnosis, which is prohibited. The procedures which have been delegated to hygiene involve the manipulation of things, rather than abstract knowledge, and the fine line between the two is retained. Even the extension of duties achieved through *Ontario Regulation 576/75*, under *The Health Disciplines Act, 1974*, offered only more objects to be manipulated (for example, matrix bands, cavity liners, sutures, and orthodontic bands) rather than any real extension of responsibility, decision making, or authority in the area of preventive dentistry or in periodontal procedures, both of which have traditionally been the concern of the hygienist. In the area of patient education, dental hygienists will generally be communicating or applying knowledge which has been derived from others (for example, the professionals involved in research) rather than utilizing theories or concepts created by peers.

It has also been said that dental hygienists do not have as strong a sense of a professional community or a long-term commitment to their occupation, compared to members of the dental profession.



Society legitimizes a profession's status when it accepts the claims made by the practitioners in the profession and approves the role which they play in the community. Compared to dentistry, the status of dental hygiene is far less sanctioned in society. In the article, "Dental Hygiene, Sociology and Feminism", the American author reports on a small survey in which the respondents were asked three questions: 1. What is a dental hygienist? 2. What is a dental assistant? and 3. What is the difference between the two? Most of the respondents gave this type of answer: "I don't know - they're the same, aren't they?" One person stated that the dental hygienist makes dentures and bridges and the assistant cleans teeth. Another insisted that one was trained, the other was not. Four respondents were aware that there were differences, but did not know what those differences were.⁸ It is unlikely that an Ontario sample would be any better informed concerning the role of a dental hygienist in providing dental health care. With the smaller number of hygienists in Ontario, many people have never had an opportunity to either meet a dental hygienist or have dental work done by one of them. The average layperson no doubt goes "to see the dentist", while the other office staff are viewed collectively as the dentist's "helpers", "girls", "nurses" or "assistants".

The characteristics of dental hygiene which I have outlined clearly place this occupation in a semi-professional category. It does not make us any less of a person or any less valuable as a health worker. However, it has meant that we are not in a position to control ourselves and that limited opportunities are available for expansion of skills or responsibilities.

Dental Hygiene as a Predominantly Female Occupation

Why did dental hygiene become a predominantly female occupation, whereas other dental auxiliaries, such as, dental technicians and denture therapists are generally male? The answer can be found by examining our legal history.

When dental hygiene was first developed as an auxiliary occupation, it was legally defined that the duties should be limited to females, "as they were more patient, less aggressive and subservient."¹⁰

Dr. Alfred Fones, one of the supporters of dental hygiene in the United States in the early 1900's, rationalized the use of women in the following way.

A man is not content to limit himself to this one specialty, while a woman is willing to confine her energy and skill to this one form of treatment. A woman is apt to be conscientious and painstaking in her work. She is honest and reliable, and in this one form

of practice, I think, she is better fitted for the position of prophylactic assistant than is a man.⁵

The initial legislation concerning dental hygiene in Ontario reflected this viewpoint. The 1951 Regulations relating to hygiene training programs stipulated that applicants to the course of study at the University of Toronto (the only course approved by *Ontario Regulation 99/51*) had to be "Any female person who is of the age of eighteen years and holds standing in nine papers of Grade 13 . . .".⁶ The senior Matriculation requirements were similar to those demanded for entrance into the general pass degree courses; however, the sex discrimination was quite unique. In his discussion of dental auxiliaries in *Dental Manpower in Canada* (1964), McFarlane noted that the strongest argument for opposing male hygienists was that the male hygienist would be more difficult to control - that is, more likely to operate beyond the scope of his legal authority or to locate in areas independent of the supervision of a dentist thus creating problems in enforcement of the Dentistry Acts. However, McFarlane pointed out that there was no scientific basis for this opinion (that is, more illegal practice by males), that it may well be an erroneous assumption, and a type of discrimination which the dental profession could not afford to practice.⁴

"The father-child girl relationship . . . has existed for many years between the largely male dental profession and the overwhelmingly female dental hygiene profession."

This restrictionist policy remained in effect for a number of years. In 1970, the Committee on the Healing Arts recommended that "there be no restrictions regarding sex, age, nationality or citizenship" for dental hygienists.¹¹ This Committee had begun its work in 1966 and the R.C.D.S. was very responsive to the concerns over the discriminatory nature of the Regulations. In 1968, the By-Laws for Dental Hygienists were revised and reference to age, sex, and citizenship were deleted.¹² In 1969 the first male dental hygienist was licensed to practice in Ontario.¹³ Since then, the number of male hygienists in Ontario has been increasing slowly, primarily through the registration of individuals previously trained in the Canadian Armed Forces.

In spite of the changed legislation and the removal of the restriction regarding

sex, dental hygiene remains a predominantly female occupation, with males accounting for only 2% of the total number. And the stereotype of a young woman in an immaculate white uniform, complete with cap and lilac band, remains in the minds of many of the dentists who control and direct us.

There are far reaching ramifications of dental hygiene being a predominantly female occupation; therefore, I would like to expand upon this issue a little further.

Sex is the most fundamental sub-grouping of the human race, and societies ascribe different intellectual, moral, social, and physical capabilities to men and women. This has encouraged and supported the division of labour, status, role, and opportunity by sex, in spite of the fact that the assumptions have been disproved.

Did the views of dentists such as Dr. Fones, about women being content to do exacting but repetitive work, and the implication that they were less ambitious than men and had less intellectual ability, have a subliminal influence on the practice of dental hygiene over the years? Did dental hygienists, as well as dentists, assume, even subconsciously, that this was so? The differential socialization which men and women receive in our society would certainly support these assumptions.

Socialization begins in the cradle. The authors of "Training the Woman to Know Her Place" describe the differential treatment of the sexes with a series of selected examples.

As children grow older, boys are encouraged to be aggressive, competitive, and independent, whereas girls continue to be rewarded, especially by their fathers, for being passive and dependent. Little boys climb trees and get dirty; little girls are expected to stay in the yard and keep their dresses clean. Little boys play with water pistols and fire trucks; little girls play with dolls and tea sets. Little "men" fight back; little girls cry and run. Little boys visit daddy's office while little girls help mommy bake a cake. And we know of at least one little girl whose goal of becoming a doctor was quickly "corrected" by her first grade teacher: every little boy in the class got to play the part of doctor in the class play; every little girl got to play the role of nurse.¹⁴

This early socialization affects the female throughout her life. She is defined in terms of a man, rather than as a dependent being. It is generally felt that her primary motivation in life is to become a companion to a man and to become a mother. Many of the jobs which women take in the work force can be viewed as extensions of what they do in the home as homemakers - teaching children and young adults, cleaning, preparing food, and nursing the sick. As

well, women are preferred for work which is precise, delicate, or especially monotonous.

When discussing the differing stereotypes of men and women, the authors of *Womanpower and Health Care* state that:

Women are characterized as emotionally unstable, weak, intuitive, inconsistent, dependent, passive, empathetic, sensitive, subjective and interpersonally oriented.

The image that is usually presented of the male in our society is in direct contrast: he is characterized as aggressive, independent, competitive, task-oriented, stoic, analytical, rational, self-disciplined, confident, able in leadership, objective, emotionally controlled and outward-oriented.¹⁵

It should be noted that while some of the characteristics attributed to women are positive, most are viewed negatively in our society. The traits attributed to men, on the other hand, are all strongly valued.

Another important difference to consider is that men are trained to derive their principal ego-satisfactions from competitive performance and the favourable opinions of their peers. In contrast, women are taught to value affiliation and to find gratification in their own personal characteristics and in the response of affectional relationships. Dental hygiene training contributes to this process. During school, hygiene students are taught and are expected to place their own personal and professional interests last, and to value altruism first. For example, they are instructed to be sensitive and responsive to the oral health and humanistic needs of their patients, as well as to satisfy the professional demands of the dentist. The role and status of dental hygienists is determined and defined in terms of the self-perceived role, status and needs of the dentist "for whom she works".

Schwerin makes a number of provocative statements in her article, "The Maturation Crisis of a Profession".¹⁶ She identifies a maturation crisis in dental hygiene, and focuses on the "father-girl child relationship which has existed for many years between the largely male dental profession and the overwhelmingly female dental hygiene profession". Schwerin accepts that the dental hygienist, as a member of the dental health team, is firmly bound to the dentist in a professional relationship. And by virtue of advanced education and professional expertise, the dentist is the leader of the team. It is generally recognized by hygienists that the procedures and services which they perform have been determined by the dental profession and not by the dental hy-

giene profession or according to the dental health needs of the public. But how many are conscious of the subtleties associated with hygiene functions? Schwerin expresses the situation well.

... they represent only those functions the dental profession has seen fit to relegate to an individual with lesser educational credentials. At the same time, the notion has always been fostered that the dentist himself maintains a superior capability for performing these same services. Lack of time on the dentist's part, rather than qualifications on the part of the hygienist have constituted the determining factors.¹⁶

Since dental hygiene students spend far longer developing skills and obtaining clinical experience in their specific areas than do dental students, this notion of the dentist's superiority is probably erroneous. It may be a case of perceived "male superiority", rather than a situation where greater expertise can be demonstrated.

In spite of the written proscriptions concerning dental hygiene duties, Schwerin points out that dentists do request that "hygienists perform one or more illegal functions as part of their regular daily routines." They do so with the rationale that: "It's really quite alright. Daddy takes responsibility for your actions. He's so proud of his little girl."

This kind of illegal practice is not uncommon in Ontario. An anonymous survey completed by fifty dental hygienists at a dental convention in 1971 showed that the following "illegal" practices were prevalent - taking impressions, placing temporary restorations, removing sutures, cementing crowns, carving amalgams, extracting primary teeth, denture adjustments, taking "wax bites", and fitting, cementing, and removing orthodontic bands. Although some of these procedures were delegated to dental hygienists in 1975 through *Ontario Regulation 576/75*, in 1971, they were technically illegal, even though they may have been competently performed. Twenty of the fifty respondents noted that they continued to see patients when the dentist had time off, and was not present in the office.¹⁷ This violates the stipulation that dental hygienists must always work under the supervision and direction of a dentist. With regards to such illegal practice, Schwerin comments that: "The illegal functions are performed because the skill is there and agreeing to do so secures the much sought after approval (for the female hygienist). Yet these same dentists often fail to support the necessary legislative changes which would enable the hygienist to achieve her full professional potential on a legal basis.

Some Features of the Working Situation of the Dental Hygienist

Despite the legal constraints and the paternalistic role which the dentist-employer assumes, dental hygiene is viewed as a preferred occupation for women. Mary Diaz refers to hygiene as a mini-max occupation, similar to nursing and teaching. It requires a minimum investment of time, energy and money and offers a maximum of results and commitment to a field.⁹

Participation in the dental hygiene profession is well suited to the contingencies of marriage, child-bearing and child-rearing, since dentists frequently employ hygienists on a part-time basis. In some occupations, intermittent employment would result in a loss of skills or marketable knowledge. This is not the case in hygiene. It offers a high level of interchangeability among dental practices and a relatively small loss of skill during periods of inactivity. At the same time, the gain in skill achieved by continuous experience is slight, and the specialized training which a dental hygienist receives is a form of "trained incapacity", since it does not carry with it any measure of transferability into other fields.

Structural limitations of the work situation restrict the opportunities for managerial or supervisory kinds of promotion. For example, promotions in private practice are essentially nonexistent due to the small staff complement. The average dental office employing a hygienist would have four members - the dentist, who remains in the top position, the dental hygienist, a chairside dental assistant, and a receptionist; each of whom performs a different role in the office. The main type of advancement open to the dental auxiliary is in terms of salary, fringe benefits, or working conditions.

Factors associated with working as a dental hygienist will become increasingly important to us, as hygienists spend a greater time in the work force. It is estimated that 80% of the young women now graduating from high school will spend approximately twenty-five to thirty years in the labour force.¹⁸ Women are also more likely to be the sole support of themselves and their families in our current society compared to the 1940's and 50's.

I should point out that Ontario dental hygienists are not the only ones concerned about their current role and future of dental hygiene in their province. As early as 1968, an Ad Hoc Committee on Dental Auxiliaries recommended establishing provincial Dental Hygienist Boards to administer the section of a recommended Provincial Act which would have regulations pertaining to the practice of dental hygiene in the respective provinces.¹⁹ Such a Board would remove Ontario dental hygien-

ists from regulation by the Royal College of Dental Surgeons.

Other recommendations involved significant changes in the traditional role of the dental practitioner in Canada. The dentist would become more of a diagnostician, clinical supervisor, dental team director, dental educator and dental administrator. Some of the dentist's traditional mechanical and manual skills would be passed on to auxiliary personnel. With these changes, more services could be provided to a broader segment of the Canadian population at a reduced cost.¹⁹

A second report published in 1970 which identified problems relating to dental services was the Report of the Committee on the Healing Arts. In the report, recommendations were made for increasing the role and numbers of dental hygienists, perhaps through shortening the training program and transferring the program from a university setting to Colleges of Applied Arts and Technology.¹¹

With regards to the R.C.D.S. regulation of dental hygiene in Ontario, the following comments were made:

The Committee has set out elsewhere its reasons for objecting to arrangements whereby one occupational group is given the power to regulate the activities of another group. In the case of the dental hygienists it seems particularly inappropriate that the work of this group should be limited and regulated by a body representing the private practitioners who are their employers, a situation which could be suspected of leading to socially unwarranted restrictions being placed on the subordinate practice.

Recommendation 66:

That the licensing of dental hygienists should cease to be a responsibility of the Royal College of Dental Surgeons of Ontario, and instead be made the responsibility of the proposed Health Disciplines Regulation Board through a Dental Hygiene Division, and that in the legislation outlining the requirements for licensing by the Board there be no restrictions regarding sex, age, nationality or citizenship.¹¹

It was mainly because of the report of the Committee on the Healing Arts in 1970 that the government commenced preparation of a Bill, later to be known as Bill 22, *The Health Disciplines Act*, 1974.

However, as you know, the Health Disciplines Act did not bring about a College of Dental Hygiene. And it is unlikely that the dental profession will encourage a move toward greater autonomy for hygiene. Dentistry as a profession is known for its conservatism. Statistical surveys and studies of dental students and of practicing dentists have revealed that most dentists are conservative, suspicious of change, independent and slow to accept the value of

working with the dental hygienist.¹⁰

I would speculate that part of the problem is that those who are in control of hygiene and the political forces which could change it retain fairly traditional views of hygienists as women first, with all of the negative, stereotyped attributes, and as competent dental health personnel second. This results in a tremendous loss of credibility for hygienists, even when their concerns are presented by capable representatives of their professional associations.

As we proceed through the day's activities, I know that you will become increasingly aware of your present position, and I hope that you will begin to think about some options for change.

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An Alternative to Conventional Topical Fluoride Vehicles

STEPHANIE NAGLE, R.D.H., B.Sc.D.

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Numerous clinical trials and laboratory experiments have demonstrated that substantial amounts of fluoride are deposited in human enamel from topical treatments. Generally, topical fluoride applications are effective in reducing decay by between 30-40 per cent.¹

Unfortunately, during the first twenty-four hours following a topical fluoride application, a significant proportion of loosely bound fluoride is lost from the enamel.^{2,3,4} Up to two-thirds of the fluoride acquired from a treatment is lost during the succeeding two weeks^{2,3,5}, therefore, only a small amount of the topically applied fluoride is permanently retained in the tooth structure.

Several researchers have investigated the possibility of increasing the amount of permanently bonded fluoride in enamel, in hopes of obtaining greater caries reductions. Work by Richardson⁷ as well as by Mellberg and colleagues⁴ demonstrated an increased fluoride uptake as a result of retaining the topical fluoride on the tooth surface by the use of protective coatings. Others have developed this concept of prolonging the tooth enamel's exposure time to fluoride further by incorporating fluoride directly into the coating itself.

Koch and Petersson⁸ have reported that the topical use of a fluoride-containing varnish extended the tooth enamel's exposure time to fluoride from

minutes to hours. This increased the amount of fluoride incorporated into the crystal lattice of the enamel and probably resulted in greater formation of the more stable fluorapatite structure than would be the case with other topical fluoride agents. In addition to the time element, Stamm⁵ has recommended that to promote fluorapatite formation, a varnish should be water permeable and should contain a high proportion of ionizable fluoride.

DURAPHAT[®]

Duraphat, a commercially available fluoride-impregnated varnish, contains 2.26% available fluoride in the form of sodium fluoride. Teeth treated with this varnish and subsequently extracted for orthodontic reasons have revealed increased fluoride concentrations in the exterior 5-10 μ m of enamel of between 600-2500 ppm F.^{9,10} In a study which compared fluoride uptake of Duraphat to various conventional topical fluorides (gels and solutions), the results indicated that Duraphat achieved significantly greater fluoride uptake than did the other topicals.¹¹ Moreover, investigators have reported that fluoride concentrations remained elevated five weeks after treatment.^{6,9}

Bennett and Murray¹² examined application time and patient acceptability of seven topical fluoride agents in a study involving 144 children aged 5-17 years, and concluded that Duraphat required the least chair-time. The authors noted that, "although approximately one third of the children said Duraphat had an unpleasant taste, a high proportion of children (62 per cent) said they suffered "no discomfort" when Duraphat was applied to their teeth, possibly because the procedure is quick and does not require a tray to be held in position in the mouth."

The most important criterion by which any topical fluoride must be judged is its effectiveness in reducing the incidence of caries. To date, the clinical experience with this varnish has been somewhat conflicting. Koch and Petersson¹³ demonstrated a 75 per cent mean caries increment reduction in sixty 15-year-old children who received semi-annual applications of Duraphat, as compared to a control group who were given a prophylaxis only. Unfortunately, this clinical trial was only carried out for a one year period, and it is suggested that the observation period for dental caries be a minimum of two years in duration in order to obtain relevant, reproducible results due to the chronic nature of the disease.

In a two-year study, Maiwald and Geiger¹⁴ found that one application of fluoride varnish a year was ineffective, but three applications a year yielded a 45 per cent caries reduction. However, this study was performed in 11-year-olds, and therefore involved a mixed dentition, with a number of teeth changing during the experimental period. Similar findings concerning the mixed dentition have been presented by Hetzer and Irmisch,¹⁵ who showed a better effect of the varnish in older children as their permanent dentition became more complete. The authors reported an 18 per cent DMFS caries reduction in 9.5-year-olds and a 43 per cent reduction in 10.5-year-olds, as a result of semi-annual applications for a period of three years. Heuser and Schmidt¹⁶ observed a 30 per cent reduction in caries, after fifteen months, in 11-year-old children given a single treatment.

A 50 per cent inhibition of incremental DMFT was reported by Wegner,¹⁷ who gave a group of 10-12-year-old diabetic children semi-annual applications of Duraphat for two years and compared them to controls. In this last study, the DMFT index was used, allowing for only one caries measurement per tooth, rather than considering each enamel surface separately, which would have provided a more sensitive measure of the caries incidence. In addition, in this last study, the test group was quite small, further impairing the formulation of significant conclusions. Actually, when all the available two year studies on fluoride varnishes are pooled, only 327 children have been

studied with the application of Duraphat.²²

Murray and co-workers¹⁸ have been the only researchers, thus far, to investigate the anti-caries effect of Duraphat in 5-year-old children. In a two year clinical trial, they observed a 7.4 per cent reduction of incremental DMFS in first permanent molars, which, although statistically significant, was considered not to be clinically useful by the authors.

Clearly, there is inconsistent clinical evidence to support the use of Duraphat as an effective caries preventive agent; however, further study employing larger test groups, longer experimental periods, and appropriate age ranges may yield more conclusive results.

A promising feature of fluoride-containing varnish is that it appears to adhere to pits, fissures, and proximal surfaces; areas known to be the most prone to caries. These surfaces do not receive maximal protection from conventional topical fluorides¹⁹ and may benefit from a varnish treatment. Animal studies have confirmed the efficacy of topically applied varnish in the reduction of rat fissure caries.²⁰ In children, the one year clinical trial by Koch and Petersson¹³ showed significantly reduced caries scores on occlusal and proximal surfaces treated with Duraphat, and attributed these favourable results to the adhesiveness of the varnish. Furthermore, Hetzer and Irmisch¹⁵ have reported that fluoride varnish was detectable in human fissures for up to fourteen days after application.

FLUOR PROTECTOR®

Fluor Protector is a urethane lacquer containing fluoride and is now available in Canada. This product differs from Duraphat in composition and in that Fluor Protector contains an organic silane fluoride, as opposed to the neutral sodium fluoride found in Duraphat. The silane fluoride facilitates the application of the varnish onto a non-dry field. When contacted by moisture after application to the teeth, it releases hydrogen fluoride which penetrates into the enamel where it again reacts with moisture (water) and releases fluoride ions. Hydrogen fluoride will penetrate into enamel easier and faster than fluoride ions, as the coefficient of diffusion of hydrogen fluoride is much larger than that of fluoride ions.²¹ An *in-vitro* study by Ahrends and Schuthof²¹ has shown that fluoride deposited by Fluor Protector reached deeper layers of enamel after twenty-four hours and after one week, as compared to an amine fluoride and a sodium fluoride agent. In theory, therefore, Fluor Protector may have some advantages over Duraphat, but further research is required to evaluate this clinically.

Practically speaking, Fluor Protector is attractive since it has a sweet taste and smell and is considerably cheaper per ml. of the product. On the other hand, Fluor Protector is packaged in separate vials with glass tops, which could prove hazardous to the operator since the tops must be broken off before application. Also, Fluor Protector is a colourless product which does not allow for easy identification of teeth surfaces yet to be painted, as Duraphat does with its yellowish-brown colour. However, Fluor Protector's lack of colour may be aesthetically more desirable from the patient's viewpoint.

APPLICATION INSTRUCTIONS

Materials: For Duraphat - cotton rolls, cotton applicators, 1 ml. of Duraphat in a dappen dish
For Fluor Protector - brush holder, disposable brush, vial of Fluor Protector

Time Required: 11 minutes, including tooth-cleaning¹²

- Procedure:**
1. Clean teeth thoroughly.
 2. Isolate dentition with cotton rolls.
 3. Air-dry all enamel surfaces.
 4. Paint a very thin coat of varnish on all tooth surfaces with brush or cotton applicator. Since applicator tends to get sticky during the treatment, use a new cotton applicator or clean the brush with alcohol or chloroform. Where teeth are in tight contact, dental floss may facilitate application.
 5. Dry with a *gentle* stream of air.
 6. Remove cotton rolls.
 7. The patient may close his mouth, even if the film seems soft and sticky. The material will completely set on the tooth within an hour.
 8. The brownish-colour of Duraphat will disappear within 24-48 hours.

Further clinical study is required to compare fluoride-impregnated varnishes with conventional topical fluoride agents with respect to protection of occlusal and proximal surfaces against caries, inhibition of the progress of incipient decay, long-term caries prophylactic effects in large groups of children, and prevention of cervical caries in the aged population. Perhaps in the future, the use of varnishes such as Duraphat and Fluor Protector can be recommended when applying topical fluorides. To date, however, sufficient tests have not been conducted to determine whether a varnish affords significant caries-reducing effects beyond the benefits of conventional procedures.

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HEPATITIS B IN DENTAL HYGIENISTS

Hepatitis B is a hazard for members of the health professions and for their patients. The frequency of hepatitis transmission by dentists is not known. In order to develop better guidelines for the prevention and treatment of hepatitis B, more information is needed about groups at risk. Therefore, in conjunction with a comprehensive course on viral hepatitis at a statewide meeting of dental hygienists, we collected blood samples to determine the frequency of markers of hepatitis B among dental hygienists.

Forty-five persons, 39 of them hygienists and six dental hygiene students, volunteered for the study. Blood samples taken from them were tested for liver enzymes (SGOT and SGPT), hepatitis B antigen, and antibody to the antigen.

Only four persons tested (5.1%) had a history of hepatitis (unknown type) while working as a dental hygienist. None had hepatitis B antigen. One hygienist with four years of office experience had anti-HBs, but no history of hepatitis. One had SGPT greater than 1.5 times normal but no markers of hepatitis B. A subsequent evaluation of the latter individual revealed normal liver enzymes.

The negative results we obtained are expected because of the small amount of professional experience of the hygienists (mean of 4.4 years). Age specific studies of the frequency of markers for hepatitis B in dentists show no difference from the general population, but the frequency rises steadily with increasing years of experience. Dental hygienists, like dentists, are probably at greater risk of acquiring hepatitis, although their risk is presumably less than that of persons with more extensive blood exposure. (James, Stephen P., and Sampliner, Richard E. National Institutes of Health, Bethesda, Md. Hepatitis B in the dental setting: dental hygienists. *J Md Dent Assoc* 21:26-30 April 1978).

EMERGENCY TREATMENT FOR INGESTION OF LARGE AMOUNTS OF FLUORIDE

An emergency could arise if a child swallowed a large number of fluoride tablets or large amounts of a fluoride solution or gel, or if fluorides were ingested with suicidal intent.

The initiation of vomiting is a primary objective when toxic amounts of fluoride have been ingested. Salt water and other preparations (for example, a teaspoon of mustard in a glass of warm water) can be used for this purpose. Once vomiting has been induced, however, the generally recommended antidote is some form of soluble calcium salt. The preparation most frequently available is milk. Lime water or preparations containing large amounts of aluminum or magnesium (for example, Maalox) also can be used. All of these cations form relatively insoluble salts with the fluoride ion and minimize the absorption of the fluoride through the gastrointestinal mucosa. If a prolonged period has elapsed and absorption has already occurred, the intravenous use of 10 ml of 10% calcium gluconate is recommended. In addition, the patient should receive support treatment for shock. Hospitalization is recommended, of course, for more severe cases of fluoride poisoning. These are the measures recommended by the National Clearing House for Poison Control Centers, DHEW. (Yacovone, Joseph A. Division of Dental Health, Rhode Island Department of Health. Emergency treatment for potentially toxic levels of ingested fluorides. *RI Dent J* 11:17 June 1978).

TOOTHBRUSHING BY PRESCHOOL CHILDREN

Mothers play the central role in teaching their young children to brush their teeth. Future health education programs should support the mother's role with specific technical advice on the scientific reasons for brushing, including

information on when and how often to brush.

In this study, a random sample of 288 mothers with preschool children aged between 2 and 4 years were interviewed. The interview was designed to investigate the child's toothbrushing behaviour as reported by the mother and also the mother's expectations concerning the social norms related to toothbrushing for young children in her community.

The results showed that, although the practice of toothbrushing is widespread, the social norms concerning oral hygiene were imprecise. The mothers had no social support for teaching their children to brush and no information on how brushing should be carried out. Dental health educators should take steps to create new norms on toothbrushing behaviour to build on and develop those already in existence. More emphasis should be placed on the actual mechanics of brushing to increase the specificity of current social norms. (Blinkhorn, Anthony S. Lance, Burn Health Centre, Churchill Way, Salford, Manchester M6 5AU, England. Influence of social norms on toothbrushing behaviour of preschool children. *Community Dent Oral Epidemiol* 6:222-226 Sept 1978).

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WINTER 1979 HIVER

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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1979 HIVER

VOLUME 13, NO. 4

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$10 per year in Canada and \$12 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$10 par année au Canada et \$12 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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Membership - Our Top Priority

Prior to this year's annual board meeting held in Vancouver, B.C., an orientation workshop was conducted by the CDHA workshop facilitators (Sherita Clark, Pat Johnson, and Jane Costigane) for the benefit of all provincial delegates, committee chairmen, and appointed officers. Despite the fact that a few of us were suffering from an advanced case of jet lag, the workshop was particularly successful in clarifying the values and objectives of the CDHA, reviewing the importance of establishing well-defined goals and priorities, as well as in setting the scene for a productive meeting.

In my mind, the most significant accomplishment of the evening was the identification of our organization's #1 priority for 1980; our national goal which we selected to work together towards-increasing our membership. As the meeting unfolded during the next two days, the rationale behind this decision became painfully obvious; the present membership figure can not support our organization's intentions, aims, and responsibilities, no matter how skilled and devoted our leaders are.

You, too, will arrive at a similar conclusion, if you consider the advantages of having a substantial membership, as I review what a strong membership means to our association.

Membership means manpower. People are our most valuable resource. With the appropriate manpower, we have the energy to tackle the problems and overcome the obstacles that challenge hygienists nationally, provincially, and locally.

Membership means clout. With a recognized, unified voice, we can effectively deal with govern-

ments and other health associations at a level on which our needs and concerns are taken seriously.

Membership means protection. With a large organization, we can make stands on policy which serve to advance the interests of the hygiene profession and which will defend and nourish our existence.

Membership means money, money which has paid for conventions, workshops, scientific sessions, and special meetings for our members, continuing education endeavours, post-diploma education for hygienists through our CFDE support, dental health month projects, manpower surveys, employment assistance, student table clinics, right down to postage, telephone expenses, stationery, and last but not least, this journal you receive four times a year. Much more can be and needs to be done, if more funds are available.

Like the minister or priest who feels that he is preaching to the very people whom need him the least, I have been delivering this message to many of you who are current members of the Canadian Dental Hygienists' Association, who appreciate its value, and who have every intention of remaining members. Therefore, let it be your personal challenge, during 1980, to encourage one of your colleagues to become a member of our association. You have an entire year in which to accomplish this, and I am only requesting that you recruit one, single individual. In this small way, you can be assured that you are contributing significantly to the positive growth of your association, and that you will be playing an active role in ensuring a viable and optimistic future for your professional organization.

SN

REPORT OF THE C.D.H.A. WORKSHOP ON CONTINUING EDUCATION JULY 28 & 29, 1979.

Following the 7th International Symposium on Dental Hygiene in Vancouver, B.C., the C.D.H.A. in cooperation with the Division of Continuing Education in the Health Sciences, University of British Columbia, held a two day workshop on Continuing Education.

The purpose of the workshop was to develop a network of C.D.H.A. members across Canada who are capable of identifying educational needs and establishing continuing education goals and objectives, and who are familiar with the planning and conduct of successful continuing education programs.

Bob Gobert, Malcolm Williamson, and David Fielding from the Division of Continuing Education in the Health Sciences, University of British Columbia were the workshop facilitators.



Participants explore techniques for effective continuing education programming.

The content outline of the workshop included identifying learning needs, establishing priorities among learning needs, writing program goals and objectives, and program planning. Each working group prepared an outline for a continuing education program. One of the results of the workshop has been the availability to all participants, and therefore to constituent associations, of nine planned programs, each dealing with an identified need.

C.D.H.A. and constituent organiza-

tional needs were dealt with in the final half day of the workshop, under the guidance of Marnie Forgay. Present administrative approaches and programs at local, regional, and provincial levels were shared. Suggested continuing roles for workshop participants, the variety of available resources, and directions and suggestions from the workshop group to C.D.H.A. concerning continuing education were developed.

The 34 participants in the workshop represented not only every province of Canada and the Canadian Armed Forces, but the United Kingdom, Holland, and the United States as well. They worked very hard for the two days, and it is a credit to both participants and facilitators that the workshop was so productive. It has indeed achieved its primary goal: the establishment of a network of hygienists across Canada who are enthusiastic and knowledgeable about issues of program planning for continuing education.

*Marnie Forgay
Continuing Education Chairman*

DO YOU WORK FULL TIME, BUT IN MORE THAN ONE OFFICE?

Do you realize that on January 1st, 1979, an amendment was made to the Unemployment Insurance Act which affects many hygienists? It states, "Employees paid in whole or in part on a time worked or fixed salary basis must be employed by one employer for at least twenty hours in a week in order to be insurable (paragraph 54 (1) (a))." This means that if you work full time, but are employed in any one office less than twenty hours per week, then you are not insurable in that office.

The C.D.H.A. has brought this problem to the attention of the Minister of Manpower and Immigration, the Honourable Ron Atkey. We are asking that the amendment be reviewed and changed to allow hygienists, who are employed more than twenty hours per week, but in more than one office, to be eligible for unemployment insurance.

Now we need YOUR support! We urge you to send a brief letter stating our position to your local member of parliament and a copy to the Honourable Ron Atkey, Parliament Buildings, Ottawa, (no postage required). The

number of responses is very important.

In order to express our dissatisfaction most effectively, we would suggest that you incorporate the following ideas into your letter, preferably in your words, relating these concerns to your particular situation.

I am a dental hygienist, and am concerned with the amendment to the Unemployment Insurance Regulation, Section 54. Many hygienists have full time permanent employment, but, because they work in more than one office and, thus, work less than twenty hours per week for one employer, they are ineligible for unemployment insurance. I think this is unfair and discriminatory, and I would appreciate immediate action on this matter.

*Elaine Good
Manpower & Utilization Chairman*

NEW CFDE TRUSTEES APPOINTED

TORONTO (October 3, 1979) — At the recent CDA Board of Governors meeting in Quebec City the following four new CFDE Trustees were appointed:

Marjorie Jackson, D.D.S.

Dr. Jackson was formerly Director of the School of Dental Hygiene at the University of Toronto and is currently a Professor in the Continuing Education Department at the same institution.

David K. Peters, D.D.S.

Dr. Peters is a Past President of the Canadian Dental Association and conducts a general practice in St. John's, Newfoundland.

Donald E. Upton, D.D.S.

Dr. Upton is a Past Chairman of the Canadian Society of Forensic Sciences (Dental Section). He practises in Calgary, Alberta.

Alain Vaillancourt, D.D.S.

Dr. Vaillancourt is Dean of the Faculty of Dental Medicine at the University of Montreal and a former member of CFDE's Advisory Committee on Fellowship Selection.

The foregoing appointments increase the number of Trustees to eleven — eight dentists and three business leaders.

PRESIDENT'S MESSAGE



CDHA president, Diane Girardin right, accepts president's gavel from Carol Worobey, immediate past president.

Dental hygiene, as a profession, has reached a considerable maturity in its brief life. It has grown professionally and organizationally, largely due to the dedication of a core of able C.D.H.A. members. Today's dental hygienists are becoming one of dentistry's most valuable auxiliaries. They are ambitious, and they do not quietly accept changes in the profession. Are you such a hygienist? Or are you a hygienist who quietly accepts decisions that are made? Can you afford to be a passive member of an association and expect a small group to undertake the immense responsibility of broadening the association's activities and improving the stature of the profession?

There is no way you can take pride in your profession, if you take the easy way out of a situation; the person you are hurting most is yourself. Everyone has the opportunity to contribute and do his or her part. Doing things is what counts. You have a career, and a career is made by doing something, not merely being something.

The need for active participation by all dental hygienists has become increasingly apparent. Your association is the most valuable and effective vehicle for making your requirements for professional viability and survival known. Show willingness to carry responsibility or raise a colleague's consciousness about the association and interest him/her to become a member. Members who are willing to become involved will be welcomed enthusiastically by the experienced members who will share their expertise with pleasure. Considerable influence is still needed. The many accomplishments of the dedicated few are not forgotten or overlooked, but the Association might have a more dominant role in improving the status of the profession, if there was greater interest and support from all dental hygienists. The C.D.H.A. needs the majority of the profession as members in order to enable it to speak with authority.

Do not leave it to the few whose time is as valuable and whose problems are as real as yours to support the whole profession. This is not

possible! The C.D.H.A. cannot survive without you, its member. There will be no one to blame but yourself for not getting involved. Come forward, volunteer your assistance, share your thoughts, your expectations, and your criticisms. Many have and will continue to do so. You cannot afford to be a passive member. Think about it. The profession needs you!

Message de la Présidente

Cette année, la priorité de l'ACHD est le recrutement de nouveaux membres et le soutien des membres actuels. Notre profession est pleine d'avenir, mais nous passons une période cruciale pour l'association. Nos efforts seront dirigés auprès des membres afin de les tenir au courant de activités et d'obtenir leur participation.

L'ACHD, dans le but de vous aider, vous offre plusieurs services, vous représente, et sauvegarde l'intérêt commun des membres. L'ACHD travaille pour le bien-être du membre, mais elle a besoin de vous pour lui permettre d'atteindre des objectifs importants dans l'évolution de la profession d'hygiène dentaire. Il appartient pleinement aux membres de l'association de donner le meilleur d'eux-mêmes et de travailler à l'intérieur de la profession. L'ACHD fait un appel aux membres. Renseignez-vous et prenez position sur certaines questions de l'heure. Appuyez l'ACHD dans ses demandes. Participez à votre manière. Encouragez un collègue à devenir membre et indiquez-lui les avantages et l'importance d'adhérer à l'association. Il est évident que plusieurs oeuvrent bénévolement mais il faut vous impliquer. Appuyez de votre mieux la profession. Prenez connaissances des perspectives de votre association puisque son implication assurera une évolution saine de la profession d'hygiène dentaire.

Diane Girardin

C.D.H.A. TRANSACTIONS 1979

The C.D.H.A. Board of Directors convened for the 16th Annual Meeting July 23-25, 1979 in Vancouver, British Columbia. The Speaker for the meeting was Marnie Forgay. Members of the Board present were:

Carol Worobey, President; Diane Girardin, President-Elect; Margaret Bailey, First Vice President; Jane Costigane, Immediate Past President; Rona Engler, Secretary; Jackie Smorang, Treasurer; Barbara Hewton, Evelyn McNee, Pat Robertson, British Columbia Directors; Sherry Saunderson, Jan Ritchie, Alberta Directors; Diane Bryant, Saskatchewan Director; Pat Hawthorne, Manitoba Director; Linda McCance, Pat Webb, Anne Bosy, Sharon Sample, Linda Berry, Debbie Lang, Ontario Directors; Lorraine Brouillard, Quebec Director; Patricia Grant, Nova Scotia Director; Jane Cummings, New Brunswick Director; Judy MacDonald, Prince Edward Island Director; Lois Bowden, Newfoundland Director.

In addition, the following observers were in attendance:

Judy Dickey, Executive Secretary; Alisa Wood, Bookkeeper; Pat Johnson, She-

rita Clark, Long Range Planning Committee; Elaine Good, Manpower & Utilization Committee; Jo Gardner, Membership Committee; Marg Miller, Education Committee; Fern Bowler, Community Dental Health; Kate McDonald, Survey Policy Committee; Stephanie Nagle, Editor; Sharon French, International Liaison Committee; Marjorie Dimitri, British Columbia; Brigitte Arands, Quebec; Pauline Murphy, Nova Scotia; Trudy Robinson, New Brunswick; Marlane Paquin, President, C.D.N.A.A.

The Board Meeting was preceded by a Finance Committee Meeting for those wishing to discuss the proposed budget. An Orientation Workshop for all members of the Board and Committee chairmen followed. The workshop, conducted by C.D.H.A. facilitators Pat Johnson and Sherita Clark, clarified the roles and responsibilities of the provincial directors and reviewed the establishment of clear goals. As a result, the 1979-80 motto for C.D.H.A. is "Participate for Progress" and the top priority is to increase membership.

The following summary highlights some of the actions taken during the meeting.

● A special committee was struck to

investigate a mechanism that would enable Canadian Armed Forces hygienists and other hygienists in similar positions to actively participate in C.D.H.A.

- C.D.H.A. will send a donation to the Marilyn Mabey Memorial Award, University of Alberta, in memory of Marilyn Mabey, an active C.D.H.A./A.D.H.A. member.
- The Executive Secretary of C.D.H.A. has become the first salaried employee of the association.
- C.D.H.A. will produce both buttons and seals for Dental Health Month, 1980.
- Promoting and maintaining membership is C.D.H.A.'s goal this year. As a result, membership kits and brochures will be distributed, and a membership workshop is to be conducted for the Membership chairmen of each province.
- By-law changes are under way to change the term "Junior member" to "Student member," a more complimentary term.
- The success of last year's Continuing Education Day was encouraging, and C.D.H.A. will again sponsor C.E. Day on March 15, 1980.
- A special committee, the Continuing Education Committee, was struck to

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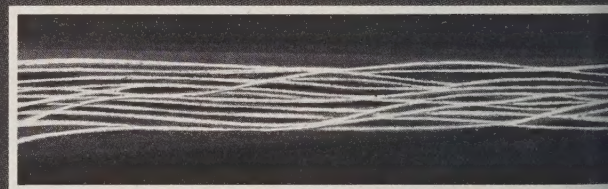
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work in conjunction with the Education Committee and will compile a file of self-study continuing education programs available for loan to hygienists provincially and locally.

- Schools of dental hygiene will be receiving copies of the C.D.H.A. Code of Ethics.
- Linda Berry will be investigating all types of insurance plans for members.
- C.D.H.A. has directed a committee to prepare an evaluation of the C.O.P. system which has developed in different directions and resulted in many ambiguities, subsequent to its previous endorsement by C.D.H.A.
- Guidelines for C.D.H.A. Workshops will be prepared and approved by September 30, 1979.
- Promotion of membership is the C.D.H.A. priority for 1980, and this year's fund-raising will be used primarily to assist in attaining this goal, including sponsoring the Membership Workshop.
- C.D.H.A. Manpower and Utilization will be informing the membership on unemployment insurance for hygienists working less than 20 hours per week for one employer.
- C.D.H.A. will appoint a representative to forward suggestions for C.F.D.E. grant priorities to the review committee of the C.F.D.E.

tee of the C.F.D.E.

- Mrs. Marjorie Dimitri is writing the history of dental hygiene in Canada and has requested assistance with her project. Each provincial association is to appoint an individual to assist with the gathering of information for Mrs. Dimitri.
- A comprehensive survey concerning Dental Hygiene in Canada has been prepared by the C.D.H.A. Manpower and Utilization Committee in conjunction with the University of Toronto (Faculty of Dentistry). Distribution will be in the fall.
- The Board had to approve a deficit budget again this year and is requesting that the provincial associations continue with fund-raising projects.
- Student Table Clinic Competition Criteria will be established by December 30, 1979.
- An Information Service will be established by C.D.H.A. which will compile and distribute materials and data pertinent to the Canadian dental hygiene profession.

For those interested, the complete agenda book and the minutes of the Annual Meeting are on file with members of the Executive Council provincial delegates and C.D.H.A. Committee Chairmen.

NOMINATIONS SLATE APPROVED

The nominations slate for 1979-80 was approved as follows:

President Diane Girardin
President-Elect Margaret Bailey
First Vice President Patricia Grant
Secretary Rona Engler
Treasurer Jackie Smorang
Immediate Past President Carol Worobey

Committee Chairmen:

Convention 1980 Kim McGrail
Education Margaret Miller
Finance Jackie Smorang
Long Range Planning Pat Johnson, Sherita Clark

Student Membership ... Jane Costigane

Community Dental Health

..... Dale Scanlan

Constitution Patricia Grant

Manpower and Utilization

..... Elaine Good

Membership Jo Gardner

Nominations Margaret Bailey

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RRSP's and the Dental Hygienist

RONALD A. BERRY, F.I.I.C.

The author is an assistant manager and an agent for an insurance company branch in Mississauga, Ontario and has been in the life insurance pension market for the past twelve years.

TAXES!! How do we legally reduce or defer taxes? As we approach the end of the year, we become increasingly aware of our income taxes and their payment. One method to soften the blow is the wise use of Registered Retirement Savings Plans. In this article we hope to:

1. explain how Registered Retirement Savings Plans work
2. help you decide if an RRSP is right for you
3. outline what to look for when buying an RRSP.

What is an RRSP?

An RRSP is an investment vehicle which allows you to save money for later years and deduct the contributions from current income. The Government of Canada approved these plans in 1957 to help offset the problem of arriving at retirement age and not being able to afford to retire. Existing government pension plans are usually inadequate so that we have to take care of ourselves.

Basically, you may contribute 20% of your **earned income** to an RRSP or a maximum of \$5,500.00, whichever is the least. For example, a hygienist has \$20,000.00 of earned income. Her maximum RRSP contribution will be 20% of \$20,000.00 or \$4,000.00. She may not take advantage of the \$5,500 ceiling limit.

When Should I Commence an RRSP?

As hygienists, your income is above average giving you the advantage of having more dollars available and the enjoyable (??) disadvantage of paying more of the tax load. The answer to when you should commence an RRSP is as soon as you have dollars you can save over and above your lifestyle expenses. You must contribute to your RRSP by February 29, 1980 in order to receive the benefit for 1979.

A brief word of caution — there is a product on the market called a Registered Home Ownership

Savings Plan (RHOSP). This plan enables you to contribute up to \$1,000.00 a year. This contribution is tax deductible, as is an RRSP, and builds tax free dollars until it is cashed in. Maximum contribution limit is \$10,000.00, and it must be cashed in within 20 years. If you put the proceeds of an RHOSP into your first home, you pay no income tax on the money when it is withdrawn. If you do not put the money towards a home, you pay tax on it when it comes out of the plan. For a young hygienist who eventually wishes to have a home, the RHOSP is the first investment vehicle you should look at. There is nothing better than contributions to an investment vehicle being tax deductible and receipts of that vehicle coming to you tax free. This is like getting your cake and eating it too. It is unfortunate that a Registered Corvette Ownership plan is not available!

RRSP and the Single Hygienist

In the past, a single woman's financial commitments centred on such things as buying a car or fur coat. Today, our outlooks have changed and the single woman tends to think more in terms of developing a lifetime career and, consequently, gives consideration to her own retirement planning. Without family obligations, more cash is available for her personal use, and, if wisely invested, this could well mean retirement at age 50 or 55. RRSP is obviously an effective tool for the single woman's long range planning. In addition, since the single hygienist has a healthy income and corresponding tax rate, good, safe investments to lessen her tax bite are most welcome. welcome.

RRSP and the Married Hygienist

An RRSP is a married hygienist's own property, in her own name, and only she may cash it in. Recent legislation on "Spousal RRSP" has enabled a person to contribute to the spouse's RRSP and still claim the tax deduction as if he/she contributed to their own. However, only the owner of the plan may cash it in.

If you had an RRSP before you married or initiated one subsequent to your marriage, your husband can contribute to your RRSP from his

earned income. Your RRSP will increase in value with his contributions, plus any you make yourself. When it comes time to take a pension on your RRSP, you now have a higher income than you would have had without your husband's contribution. This splitting of RRSP contributions makes financial sense, as the example to follow will show:

John Doe, Male, Age 40
Income: \$40,000.00
Contributes: \$5,500.00 annually to his own RRSP

At age 65, John has accumulated (using a uniform rate of 8%): \$434,247.00

At current annuity rates, he receives a pension of \$4275.16 a month, or \$51,301.00/yr. On this, he might pay income tax of \$17,000.00/yr.

However, if he and his wife, both age 40, have one RRSP each with \$2,750.00 contributions each year, the total \$5,550.00 contribution is the same and each RRSP at age 65 is half of the previous example. The total is the same, but the income tax payments will differ.

John Doe	Jane Doe
Income: \$25,651.00	Income: \$25,651.00
Possible Tax: \$5,700.00	Possible Tax: \$5,700.00
Total Possible Tax: \$11,400.00	
Possible Tax Saving Using Tax Split: \$6,600.00	

Advantages of an RRSP

1. An RRSP is one of the easiest vehicles to accumulate money because of its tax favoured treatment. Money will accumulate faster than in a conventional investment vehicle. Keep in mind that, to have a pension income of \$1,500.00 a month at age 65, you must have a retirement fund of about \$150,000.00. The chart which follows shows the accumulation of money with and without an RRSP at different tax rates. The chart is based on an investment of \$1,000.00 every year to age 65 at a uniform rate of interest of 8%. For instance, if a person starts an RRSP at the age of 25 and invests \$1,000.00 into his plan annually, he would have accumulated a total sum of \$279,781.00 when he reached the age of 65. This is double the amount which would be returned from depositing the same money in a bank account, no matter what his tax rate was.

***Accumulation of Money With and Without an RRSP**

Age	Money invested with RRSP	Money invested without RRSP Assumed Marginal Tax Rates				
		30%	35%	40%	50%	60%
25	\$275,781.00	\$103,516	\$86,748	\$72,352	\$49,213	\$32,575
30	\$186,102.00	\$ 75,681	\$64,381	\$54,495	\$38,299	\$35,949
35	\$122,346.00	\$ 54,485	\$47,022	\$40,370	\$29,164	\$20,288
40	\$ 79,954.00	\$ 38,343	\$33,550	\$29,196	\$21,656	\$15,452
45	\$ 49,423.00	\$ 26,051	\$23,094	\$20,358	\$15,485	\$11,134
50	\$ 29,234.00	\$ 16,690	\$14,979	\$13,366	\$10,412	\$ 7,791

*The above chart does not take into account the \$1,000 interest deduction. We assume all interest earned is taxable.

- RRSP's are a good hedge against inflation because of tax favoured treatment. Keep in mind that deductions at pension age are indexed with inflation as well.
- RRSP's are to be used as a supplement to the Canada Pension Plan. At present, the maximum amount is \$218.06 per month plus old age security. Obviously, to live comfortably, you will have to look after yourself. Keep in mind that a pension of \$1,000 a month will not be adequate 20 years from now. Statistics show that by the year 2000, three times as many people will be retired and, if they are not adequately looked after, the load will fall on the economy of that time. Today, a shocking percentage of retirees live in poverty, and we are not able to take care of them. How are we going to look after three times the number?
- People are very mobile in jobs today. It is now uncommon to hear of someone retiring after 40 years with the same employer. Because you control your RRSP, it goes with you wherever you go. You do not lose your personal pension plan by leaving a job.

These are the primary advantages of owning an RRSP. If they make sense to you, having your own RRSP should be made a reality.

Where Do I Obtain an RRSP?

The pension market is aggressively sought after by trust companies, banks, insurance companies, credit unions, and mutual fund companies.

The banks, trust companies, and credit unions sell both guaranteed interest and non-guaranteed plans. These may or may not have an administration fee, set up, or close out fee. You should investigate all fees before choosing. At present, trust companies may give you a term annuity (for a given number of years). To obtain a life annuity (a pension for your lifetime), you have to take your RRSP to an insurance company, and they will set up your pension plan for you.

I hope to have given you an overview of RRSP's. When choosing your RRSP, discuss your particular requirements with your bank manager, trust officer, insurance agent, annuity broker, or a combination of the above. It is not wise to purchase your RRSP over the counter, two days before the deadline, if you are not sure of what you want or need.

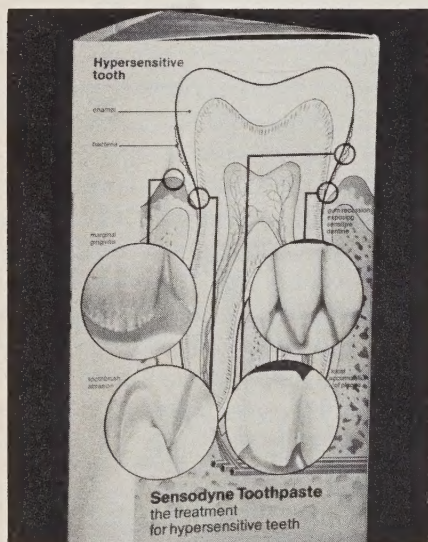
If you have any questions pertaining to RRPS's, I would be pleased to seek an answer for you. Please direct any correspondence to this journal.

PRESENTING PREVENTION

TRIANGULAR TOOTH STAND

Oral hygiene instruction can be highlighted by a colourful line-diagram model, illustrating the cross-section of the human tooth in situ. This three-sided plasticized cardboard depicts: 1. the healthy tooth 2. the diseased tooth and an enlargement of 3. gingival plaque accumulation, gingival recession, marginal gingivitis and toothbrush abrasion. The durable nature and practical size (6" x 10") makes this triangular unit suitable for chairside and small group counselling. The *3-Sided Tooth Stand* has been made available through courtesy of Block Drug Co. Ltd., (Pyco-pay), Toronto, Ontario.

Price: \$2.00
Available from: Ms. Helga Dettbarn
Education Chairman
The Ontario Dental
Hygienists' Association
104-237 Locke St. South
Hamilton, Ontario L8P 4B8



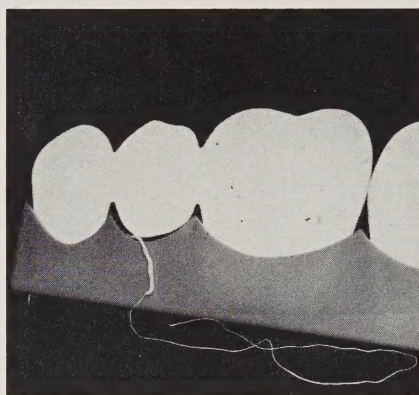
BRIDGE CLEANING DEMONSTRATOR

This three-dimensional instructional aid will assist you in motivating patients to clean *under* their bridgework. Compliance in maintaining oral hygiene around and beneath crowns should improve as patients are given the how/where/why instruction with this model,

since floss can be swept under the centre tooth in the bridge. This bright and sturdy demonstrator is an excellent tool for all dental practices, particularly those specializing in crown and bridge dentistry and for any teaching institution.

Price: 5" x 14" model \$25.00 + postage

Available from: Ms. Helga Dettbarn
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Ontario Dental
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OROFACIAL ANATOMY REVIEW

Orofacial Anatomy serves as a concise and detailed review or reference for the dental hygienist and dentist. This book provides a visual dissection of the oral cavity, its contents and surrounding structures, by use of serial layers of illustrations (fine acetate transparencies). Studies of the temporomandibular joint, the major muscles of mastication, and correlation of denture and anatomic landmarks are included. In addition, a chart summarizes the muscular actions on the mandible. All illustrations are in colour - 19 pages.

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Send to Jo Gardner, CDHA
Membership Chairman,
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T-SHIRTS & SWEATSHIRTS

The Ontario Dental Hygienists' Association is selling T-shirts and sweatshirts. They are crested with "YOUR SMILE TURNS ME ON" in navy blue lettering on a light blue background.

The shirts are sold for \$6.00/T-shirt and \$12.00/sweatshirt. Cheques should be made payable to the Ontario Dental Hygienists' Association and sent to:

ODHA, 104-237 Locke Street South,
Hamilton, Ontario L8P 4B8

SELF-ASSESSMENT TEST

The fourth self-assessment test in the 1979 series further reviews dental anatomy, focusing specifically on occlusion. Each of the questions is followed by four possible answers. Circle the letter which you believe to be the best answer. When you have completed the test, turn to page 94 for the correct answers.

1. In a patient with normal Class I occlusion, the following molar relationship will be found
 - a) *the buccal groove of the mandibular 1st permanent molar is distal to the mesio-buccal cusp of the maxillary 1st permanent molar*
 - b) *the buccal groove of the mandibular 1st permanent molar is mesial to the mesio-buccal cusp of the maxillary 1st permanent molar*
 - c) *the mesiobuccal cusp of the mandibular 1st permanent molar occludes with the buccal groove of the maxillary 1st permanent molar*
 - d) *the mesiobuccal cusp of the maxillary 1st permanent molar occludes with the buccal groove of the mandibular 1st permanent molar*

2. What is the excess space called which is available for the permanent canine, first premolar, and second premolar following the normal exfoliation of the deciduous canine, first molar, and second molar?
 - a) *freeway space*
 - b) *primate space*
 - c) *interdental space*
 - d) *leeway space*

3. In mesiodistal width, the deciduous mandibular second molar is usually
 - a) *greater than the unerupted second premolar*
 - b) *smaller than the unerupted second premolar*
 - c) *about the same size as the unerupted second premolar*

4. The maxillary incisors in a class II division I malocclusion are
 - a) *retruded*
 - b) *protruded*
 - c) *edge to edge*
 - d) *end to end*

5. That characteristic of the teeth in which the incisal edges of the maxillary anterior teeth extend (vertically) below the incisal edges of the mandibular anterior teeth when the jaws are in centric occlusion, is called
 - a) *overjet*
 - b) *overbite*
 - c) *cross bite*
 - d) *open bite*

6. The most important purpose of the axial positions of the teeth involves
 - a) *stabilization of the arches*
 - b) *proper occlusal contact*
 - c) *prevention of food packing between teeth*
 - d) *proper food flow patterns*

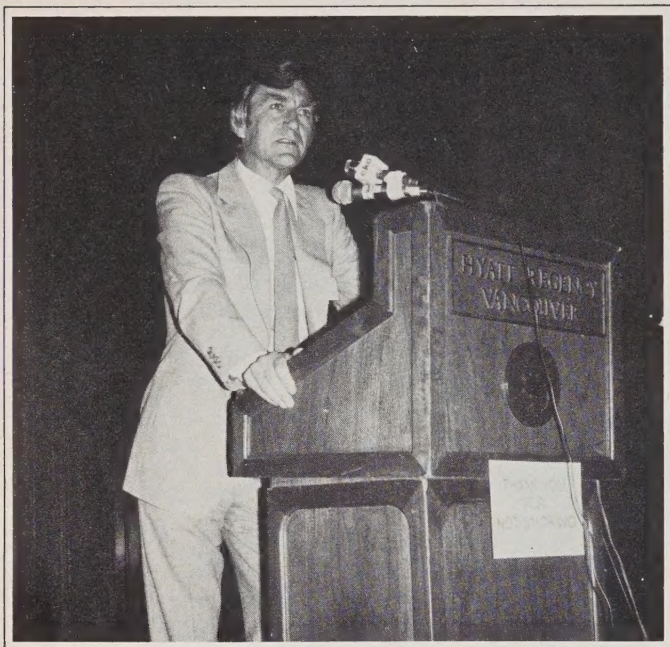
7. That characteristic of all maxillary teeth to extend facially (horizontally) beyond the contours of the mandibular teeth is called
 - a) *overjet*
 - b) *overbite*
 - c) *cross bite*
 - d) *open bite*

8. The term "compensating occlusal curvature" describes
 - a) *the line beginning at the tip of the canines and following the buccal cusps of premolars and molars, when viewed from a point opposite the buccal aspect of the first molars*
 - b) *the spherical composite arrangement of the occlusal surfaces of the teeth in each dental arch*
 - c) *any prominent ridge of enamel immediately above the cervical line on the crown of a tooth*
 - d) *a notably pointed or rounded eminence on or near the masticating surface of a tooth*

Bonnie J. Trodden, R.D.H., B.A.
Instructor, School of Dental Hygiene
University of Manitoba.

7th

HIGHLIGHTS OF THE INTERNATIONAL SYMPOSIUM JULY 25 TO 28, 1979, VANCOUVER



Dr. George Beagrie delivers keynote address.

The 7th International Symposium on Dental Hygiene, sponsored by the Canadian Dental Hygienists' Association, was held July 25th to 28th, 1979 in Vancouver, British Columbia. A record registration of over six hundred delegates from all branches of dentistry and representing thirteen countries from around the world made this a truly international meeting.

Symposium activities were launched at the "Welcome Aboard" Reception sponsored by the American Dental Manufacturing Company and the College of Dental Surgeons of British Columbia. Captain Vancouver and his crew were on hand to welcome guests and the music of the world-famous Beefeater Band created a feeling of friendliness and enthusiasm which was to prevail throughout the Symposium.

A Vancouver Highland Pipe Band and Chief Simon Baker of the Capilano Indian Reserve provided colourful escorts for the flag bearers, representatives of member countries and other

guests participating in the Opening Ceremony. During this session, delegates were commended for their continuing efforts in the fight against dental diseases and for sharing their knowledge and expertise on an international level.

The keynote address was given by Dr. George S. Beagrie, Vice Chairman of the Commission on Dental Education for the Federation Dentaire Internationale and Dean of the Faculty of Dentistry at the University of British Columbia. His presentation, "Life Long Learning: Challenge and Change", set the stage for the scientific program. In the ensuing three days, lecturers, clinicians, and panelists developed the theme through a variety of activities and presentations which offered something of interest to all those who attended.

Prior to the Symposium, dental hygienists representing Canada, Japan, Netherlands, Norway, Sweden, United Kingdom, and United States convened for the fourth meeting of the International Liaison Committee on Dental Hygiene. Highlights from this meeting included reports from the Organizing Committees of the 7th and 8th Symposia, the selection of the United States as the venue for the 9th Symposium, the election of Joan Voris of Canada to succeed Wendy Leech as chairman of the I.L.C., and the establishment of an ad hoc committee under the chairmanship of Wendy Leech of the United Kingdom to investigate the development of an International Federation of Dental Hygiene Associations.

This Symposium, which was held for the first time on the North American continent, was a success in every way. Besides the many innovative scientific offerings, the Symposium program provided ample opportunity for socializing, relaxing, and sight-seeing. A summary of Symposium proceedings will be published as a special journal issue of the Canadian Dental Hygienists' Association and will be automatically sent to all Symposium registrants. Additional copies will be available upon request for a fee of \$3.00 from the CDHA Executive Secretary, 46 James Street, Aylmer, Quebec, Canada J9H 4S6.

The 8th International Symposium on Dental Hygiene will be held in London, England in July of 1980. Plan now to attend!

POSIUM ON DENTAL HYGIENE

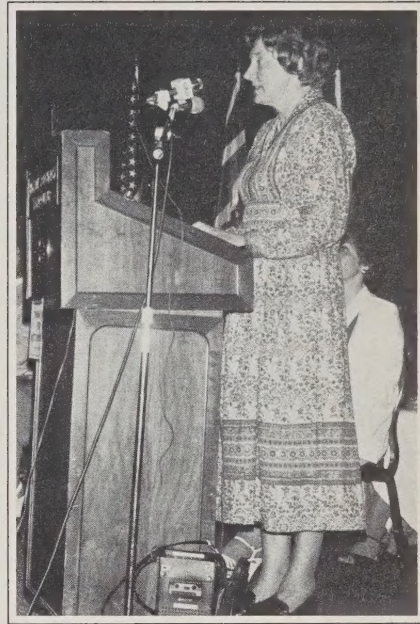
VER, B.C., CANADA



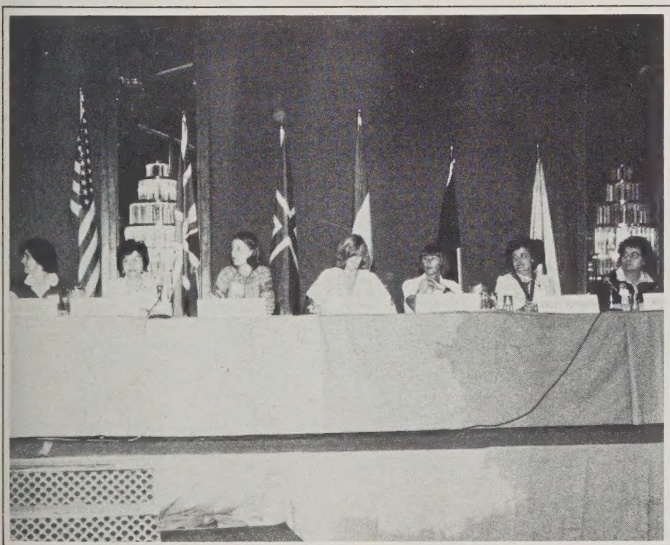
A Vancouver Highland Pipe Band leads the procession during the Opening Ceremony.



Dr. Malcolm Williamson, Assistant Dean and Director of Continuing Dental Education for the Faculty of Dentistry at the University of British Columbia, discusses issues and concerns in continuing education with emphasis on strategies for effective program planning.



Mrs. Wendy Leech of the United Kingdom brings greetings on behalf of the International Liaison Committee on Dental Hygiene of which she has been chairman since its establishment in 1973.



Delegates from Canada, Japan, Netherlands, Norway, Sweden, United Kingdom and United States present an overview of dental hygiene education, licensure and practice in their respective countries during the International Representatives Panel.



Registrants visit the University of British Columbia to tour the Faculty of Dentistry and to view table clinic presentations relating to dental and dental auxiliary education, licensure and practice in Canada.

Nursing Bottle Caries - A Hospital Program

Dale Scanlan, R.D.H.

The author is a graduate of Algonquin College, Ottawa and currently employed in the dental clinic of the Children's Hospital of Eastern Ontario. She is past president of the Ottawa Local society and presently CDHA chairman of Community Dental Health.

The number of children referred to the dental clinic of Children's Hospital of Eastern Ontario with nursing bottle caries is on the increase. As a hygienist with the Division of Dentistry since its beginning two years ago, the opportunity to observe these children and talk with their parents has been most informative. A lack of parental awareness of the problem is obvious. The incidence of nursing bottle caries has been relatively stable for a long period of time, but diagnosis of nursing bottle caries by the dentist appears to be on the rise in our area. We feel this is due, in part, to our education and treatment program. Nevertheless, early childhood decay continues to be a problem because it is not readily recognizable by the parent or the family physician.

The use of a pacifying soother dipped in sugar or corn syrup was the offending item a decade or more ago.¹ More recently, the introduction of the plastic bottle filled with sweetened liquid has been the major contributor to this rampant decay state.² Now that the danger of broken glass has been eliminated, it has become common practice for the baby or toddler to use the bottle between regular feeding times and particularly at bedtime. Liquids such as apple juice and other natural juices, although fine for a feeding of short duration, become a problem when the child's teeth are in contact with the acidic or sweetened liquid over a period of time, such as during the night. The packaged sugared drinks and gelatin desserts are a particularly dangerous addition to the bottle, even if vitamin C has been added. Due to its high sugar (lactose and/or sucrose) content, formula in a pacifying bottle at bedtime will also contribute to decay.^{1, 3} During light sleep, the baby pulls fresh liquid into the mouth with a natural sucking action. As he drifts into deep sleep, the saliva flow diminishes and the swallowing reflex is decreased. The liquid pools in the mouth until the baby

swallows, and further sucking movements supply fresh liquid to the teeth.⁴ This cycle may continue all night and when coupled with a lack of oral hygiene, all the factors for rapidly progressing decay are present. To the parent or physician, it appears as though the teeth are erupting black or brown in colour (Fig. 1). In fact, they are decaying as quickly as they erupt.

An additional contributing factor to nursing bottle syndrome is the introduction of snacking foods in the form of teething biscuits as early as six months of age⁵ or during the teething period. This habit soon develops into a snacking pattern. The flour and sugar combination changes to a sticky paste-like substance, adhering to the teeth and absorbing the sweet liquids that are used to help wash down the biscuit. The acidic byproduct of plaque bacteria is held close to the tooth causing decalcification and eventual decay.

Nursing bottle caries accounts for approximately seven percent of all diagnoses at the Children's Hospital of Eastern Ontario. Taking into consideration factors such as age, the time involved to complete treatment, presence of pain, and the distance between home and clinic, a decision is made between treating the child under local or general anaesthetic. The operating room is fully equipped for paediatric restorative dental treatment. Cases of rampant decay, a totally preventable situation, utilize approximately twenty per-



Fig. 1. A 3-year-old female with rampant decay, still receiving a nighttime bottle containing sweetened milk or juice.

cent of the assigned operating room time. The economics of nursing bottle decay includes costs to both the parents and the taxpayer. The dental treatment fee, for which the parent is totally responsible, averages \$250. Restorative dentistry is not covered by the Ontario Health Insurance Plan. O.H.I.P. does cover the cost of the anaesthetist and the overnight stay in hospital, if required, at a combined cost of approximately \$400.

The follow-up program for these cases include an appointment with the hygienist at the time of the dentist's post-operative visit. The parents are shown how to brush their child's mouth, usually without toothpaste, so that the parent has a good view of the teeth to be cleaned.

The child can be encouraged to brush his own teeth after meals to develop manual dexterity and the brushing habit. He can use toothpaste at this time to obtain beneficial effects of its fluoride content. However, the responsibility for thorough plaque removal is entirely the parents' and bedtime is the suggested time for brushing. Home fluoride gel (0.5% fluoride ion) is applied to the teeth twice a week in non-fluoridated areas and once a week in fluoridated areas. We also discuss eating habits extensively with the parents and child. A diet sheet completed by the parents is used to help them become aware of the amount of "junk food" (unnecessary foods high in sugar, salt and fat content) consumed daily. The children are re-appointed in four to six months time. The recall visit includes an examination, radiographs, prophylaxis and topical fluoride treatment. If the children have remained cavity free and are not a management problem, they will then be referred to a private practitioner for future follow-up.

Nursing bottle caries has proven to be a common occurrence to warrant a place in the timetable of pre- and post-natal classes. Parents must be aware of what happens when children are given a bottle to help them go to sleep. The mother's lament "I didn't know" is heard too often, and it is she who may bear the quilt of a two-year-old child crying all night with pain.

Areas we emphasize to parents of newborns are:

1. The nighttime bottle should only contain water and be eliminated when the child reaches 13 months of age.
2. The baby's mouth should be cleansed daily with a 2" x 2" gauze sponge rinsed in cool water (Fig. 2) to (a) reduce the substrate for bacterial growth, (b) help the child become accustomed to the feeling of a clean mouth, and (c) desensitize the baby to the sensation of his mouth being cleansed.
3. The toothbrush, softened with warm water, should be introduced around one year of age. Toothpaste is not required at this time.

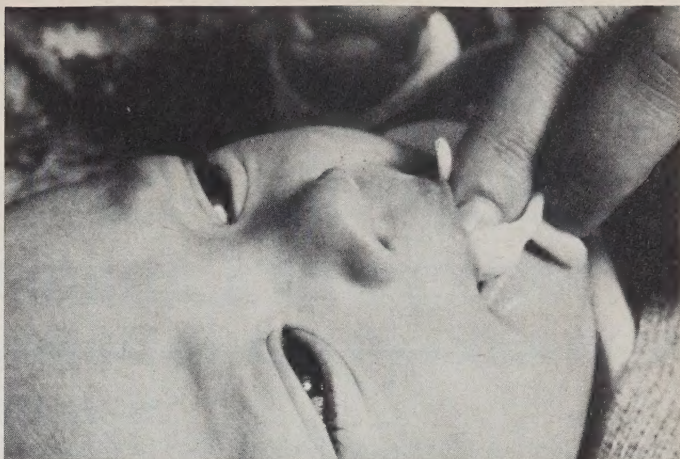


Fig. 2. Oral hygiene measures beginning in the first year are accepted as part of daily routine by child and parent.

4. Use of gauze should be encouraged to massage the gums and help relieve some of the irritability associated with teething.
5. The use of a pacifier is preferable to the thumb. However, its use is only desirable if the baby appears to require additional sucking. It should never be dipped in sugar or syrup to encourage its use.
6. Sugar and water are not acceptable for the healthy baby, but the family physician may prescribe sugar and water for the baby during illness.
7. Teething biscuits are not acceptable for dental health, nor do they have useful nutritive value. The biscuit is merely a flour and sugar cookie that adheres to the teeth and contributes to tooth decay. If the biscuit is swallowed, it expands in the stomach giving the baby a satisfied feeling and an excuse to refuse nutritious food at the regular mealtime. This begins the cycle of snacking on demand. A teething ring may be recommended, if the need arises during the teething period.

Summary

Nursing bottle caries continues to be an area for concern. It is completely preventable through education of the parents. The elimination of a sweetened bedtime bottle helps to stop the cycle of snacking from the beginning. This, in turn, prevents dental decay, reduces the chances of obesity and narrowed taste preferences common during childhood, and reduces the risks of diabetes, hypertension and heart disease in adulthood.⁶

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THE DENTAL HYGIENE DATA BANK:

Update on the Results of the Statistics Canada Surveys of Canadian Dental Hygienists

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- What is the distribution of hygienists in Canada - by age, sex, marital status, etc.?
 - How many dental hygienists are there in Canada and how many of these are working?
 - How does the utilization of hygienists compare from province to province?
 - Is it true that few married hygienists are still working?
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Answers to questions such as these have only been available within the last few years, since the development of a "data bank" as part of a national data system. Information is obtained through regular national surveys of the total dental hygiene population in Canada. This article reviews the history of the Dental Hygiene Databank and presents the results of the 1977 and 1978 surveys. Comparisons are made with the results of the 1976 study to identify trends in the practice of dental hygiene in Canada.

Background

The Dental Hygiene Databank is part of the National Health Manpower Databank for Canada. This national databank consists of a series of computer tape files in a centrally based data system, providing current information on health occupations in Canada. Information including geographic distribution of personnel and selected socio-economic data such as sex, date of birth, marital status, basic education, and type of employer, is valuable for effective health manpower planning.

In 1973, the Canadian Dental Hygienists' Association began to work with Statistics Canada and Health and Welfare Canada to develop and conduct a periodic survey of Canadian dental hygienists. The survey provides statistical data on the socio-economic and demographic characteristics of dental hygienists qualified to practise and resident in Canada. The resulting information is then available for dissemination to manpower planning groups and other interested users. The Canadian Dental Hygienists' Association has assumed responsibility for: the maintenance of a current mailing list for dental hygienists in the provinces, the Yukon and the Northwest Territories; a review of the survey questionnaire form; and an analysis of the survey data to develop a demographic profile of Canadian dental hygienists and to identify trends in the practice of dental hygiene in Canada.

Five national surveys have been conducted to date. The initial unpublished pilot study in 1975 has been followed by surveys in April of 1976, 1977, 1978, and 1979. The results of the 1976 survey were published by Statistics Canada in the form of the report - *Health Manpower: Dental Hygienists 1976**. Further analysis of the 1976 material was presented by Pat Johnson in an article entitled, *The Dental Hygiene Databank: Results of the 1976 Survey of Dental Hygienists*, in the Summer 1978 issue of *The Canadian Dental Hygienist/L'Hygieniste Dentaire du Canada*. The results of the 1979 survey are not yet available.

**Health Manpower: Dental Hygienists, 1976*, the *Health Manpower Inventory*, and all other Statistics Canada publications can be ordered by mail from Publications Distribution, Statistics Canada, Ottawa, K1A 0T6, or may be purchased from authorized agents and other community bookstores.

Data from the 1977, and all future surveys, will be published as part of the *Health Manpower Inventory*. Generally, all data collected on the questionnaires are available to those wishing more detailed information on particular groupings. However, any information which would reveal the situation or identity of individuals will be suppressed.

Survey Population and Data Collection

The survey population consists of the total number of dental hygienists living in Canada and qualified to practise. This sample population increases with the influx of new graduates and immigrants. The mailing list is kept current by means of name and address changes provided by the Canadian Dental Hygienists' Association. Further updates are provided by the respondents themselves on their questionnaires. Individuals are removed from the survey when a valid address is no longer available or upon retirement after reaching the age of 65, notice of death, or emigration from Canada.

The data is collected by means of a single page questionnaire mailed by Statistics Canada to the total survey population. Follow-ups are sent to non-respondents at approximately four and eight week intervals after the initial mailing.

Data Processing and Analysis

The questionnaires are essentially pre-coded documents and therefore require minimal manual coding. The data is key-edited onto magnetic tape for computer analysis and storage. Statistics Canada summarizes the responses to the various questionnaire items and prepares basic distribution tables and cross-classifications of some of the socio-economic and demographic characteristics.

The non-responses to the survey (e.g. questionnaires returned by the post office due to address changes) are reflected in the data by randomly assigning a weight of "2" among the responses in a particular province, at a frequency equal to the number of responses in that same province; the remaining responses are given a weight of "1". Where a specific question was not answered, (e.g., marital status), it was not weighted or otherwise imputed. Following the compilation of distribution tables, the Statistics Canada material is published and available for further analysis.

Response Rate

The response rate achieved in the 1976 survey was 89% with 1,498 questionnaires returned out of a total survey population of 1,684. Although this rate decreased to approximately 85% in the two subsequent surveys, it is still exceptionally high considering the nature of the survey and the

tremendous increase in the total survey population. In 1977, 2,003 dental hygienists were surveyed. By 1978, this population had risen to 2,642, an increase of almost 1,000 over the 1976 sample size.

Geographical Distribution of Survey Population

Examination of the geographical distribution of dental hygienists throughout Canada reveals changes over the three year period in the proportion

Table 1				
RANKING AND DISTRIBUTION OF SURVEY POPULATION BY PROVINCE OF RESIDENCE, 1976, 1977, 1978				
Province of Residence		Rank	% of Total Sample	N
CANADA				1684
1	Ontario	1	38.95	656
9	British Columbia	2	16.98	286
7	Alberta	3	13.77	232
6	Quebec	4	11.28	190
	Manitoba	5	7.18	121
S	Nova Scotia	6	5.58	94
U	Saskatchewan	7	2.79	47
R	New Brunswick	8	1.24	21
V	Prince Edward Island	9	1.06	18
E	Newfoundland	10	0.95	16
Y	Yukon & Northwest Territories	11	0.17	3
D				
A				
T				
A				
CANADA				2003
1	Ontario	1	37.04	742
9	British Columbia	2	15.72	315
7	Quebec	3	15.52	311
7	Alberta	4	13.87	278
	Manitoba	5	6.88	138
S	Nova Scotia	6	5.14	103
U	Saskatchewan	7	2.39	48
R	Prince Edward Island	8	1.10	22
V	Newfoundland	9	1.10	22
E	New Brunswick	10	1.04	21
Y	Yukon and Northwest Territories	11	0.14	3
D				
A				
T				
A				
CANADA				2642
1	Ontario	1	36.90	975
9	Quebec	2	21.34	564
7	British Columbia	3	13.36	353
8	Alberta	4	11.88	314
	Manitoba	5	6.24	165
S	Nova Scotia	6	5.22	138
U	Saskatchewan	7	2.11	56
R	New Brunswick	8	1.13	30
V	Prince Edward Island	9	0.83	22
E	Newfoundland	10	0.83	22
Y	Yukon and Northwest Territories	11	0.11	3
D				
A				
T				
A				

of hygienists found in the various provinces. Refer to Table 1. Although Ontario continues to rank first as the province with the greatest number of dental hygienists, its relative proportion of hygienists compared with the Canadian total decreased slightly in 1977 and again in 1978. In contrast, Quebec demonstrates a tremendous increase, both in absolute and relative terms, in its population of dental hygienists. Between 1976 and 1978, the population increased by almost 200%, from 190 to 564 hygienists, thus moving Quebec from a ranking of fourth to second in its proportion of Canadian dental hygienists.

Ontario was not the only province to show a gradual decline in its percentage of the total survey population. This was also experienced by British Columbia, Manitoba, Saskatchewan, Newfoundland, and the Yukon and Northwest Territories, although the actual number of dental hygienists in those areas generally increased. There appears to be a very stable dental hygiene population in Prince Edward Island, Newfoundland, and the Yukon and Northwest Territories. Nova Scotia and New Brunswick show increases of 33.98% and 42.85% respectively, between the 1977 and 1978 surveys.

Characteristics of Respondents: Sex, Age Group, Marital Status, Basic Dental Hygiene Education

The following information is based on the particular situation of each respondent as of April 1st of the survey year. The results indicate that dental hygiene remains a predominantly female occupation. Between 1976 and 1978, the total number of dental hygienists qualified to practise in Canada grew from 1,684 to 2,642. However, the relative proportions by sex have remained constant, with women representing approximately 97.6% of the total survey population. The percentage of females employed in dental hygiene, versus unemployed in dental hygiene, has risen slightly during the last two years as follows: 1976 - 77.1%; 1977 - 79.2%; 1978 - 80.1%.

Although the majority of dental hygienists are married, the data summarized in Table 2 indicates a steady increase in the relative number of single dental hygienists.

Table 2						
DENTAL HYGIENISTS RESIDENT IN CANADA, BY MARITAL STATUS AND SURVEY YEAR						
Marital Status	1976		1977		1978	
	%	N	%	N	%	N
Single	30.2	508	32.4	649	37.6	995
Married	63.8	1074	58.4	1169	53.2	1405
Other	3.1	52	4.4	88	3.9	102
Not Stated	2.9	50	4.8	97	5.3	140
Total	100.0	1684	100.0	2003	100.0	2642

The increase in the proportion of single dental hygienists is probably a reflection of the expansion of dental hygiene programs within the last few years and the resulting increase in qualified dental hygienists in their early twenties. As noted in Table 3, there was a 4.9% increase, between 1977 and 1978, in the number of respondents indicating 'Under 25 years' as their current age group.

Table 3						
DENTAL HYGIENISTS RESIDENT IN CANADA, BY AGE GROUP AND SURVEY YEAR						
Age Group	1976		1977		1978	
	%	N	%	N	%	N
Under 25 years	33.8	569	33.6	674	38.5	1017
25 - 29 years	33.3	562	32.3	648	30.5	807
30 - 34 years	21.4	361	21.0	421	17.6	466
35 - 39 years	4.0	67	4.8	96	5.4	142
40 - 44 years	2.7	45	2.7	54	2.5	65
45 - 49 years	1.3	22	1.2	24	1.4	38
50 years and over	1.3	22	1.4	28	1.2	33
Not stated	2.1	36	2.9	58	2.8	74
Total	99.9	1684	99.9	2003	99.9	2642

Table 4								
DENTAL HYGIENISTS RESIDENT IN CANADA, BY MARITAL STATUS, AGE GROUP AND EMPLOYMENT IN DENTAL HYGIENE, 1977								
Age Group	Single				Married			
	Total		Employed in Hygiene		Total		Employed in Hygiene	
	%	N	% of Age Group	N	%	N	% of Age Group	N
Under 25 years	66.4	421	92.6	390	20.1	229	90.8	208
25 - 29 years	24.6	156	92.9	145	37.8	431	70.8	305
30 - 34 years	7.1	45	91.1	41	28.8	328	46.6	201
35 - 39 years	0.6	4	100.0	4	6.9	79	58.2	46
40 - 44 years	0.6	4	100.0	4	3.3	38	73.7	28
45 - 49 years	0.1	1	100.0	1	1.3	15	73.3	11
50 years & over	0.5	3	100.0	3	1.6	19	78.9	15
Total	99.9	634		588	99.8	1139		814

Table 5								
DENTAL HYGIENISTS RESIDENT IN CANADA, BY MARITAL STATUS, AGE GROUP AND EMPLOYMENT IN DENTAL HYGIENE, 1978								
Age Group	Single				Married			
	Total		Employed in Hygiene		Total		Employed in Hygiene	
	%	N	% of Age Group	N	%	N	% of Age Group	N
Under 25 years	69.9	681	90.9	619	21.3	294	88.8	261
25 - 29 years	23.1	225	89.8	202	37.2	513	77.2	396
30 - 34 years	4.7	46	93.5	43	26.5	366	62.3	228
35 - 39 years	1.0	10	80.0	8	7.9	110	56.4	62
40 - 44 years	0.4	4	50.0	2	3.5	49	65.3	32
45 - 49 years	0.2	2	100.0	2	2.0	28	75.0	21
50 years & over	0.5	5	60.0	3	1.4	19	73.7	14
Total	99.8	973		879	99.8	1379		1014

Tables 4 and 5 display the marital status and age distribution of the total survey population and those employed in dental hygiene for the 1977 and 1978 surveys, respectively. The results indicate that single dental hygienists are more likely to be employed in dental hygiene than are married hygienists. This was noted in all age groups in 1977 and in all but two age groups in 1978. The difference was particularly significant in all age groups over 30 years.

Examination of activity status by sex indicates that female dental hygienists are more likely to experience periods of unemployment than are their male counterparts, particularly women in the thirty to forty-four age groups. This trend is consistent with the general pattern of relative unemployment of women during the child-bearing and child-rearing years, followed by a return to the labour force.

The diploma/certificate represents the basic qualification of an overwhelming majority of the dental hygienists qualified to practise in Canada. Table 6 gives the basic qualifications noted in the Statistics Canada surveys. Approximately 92.0% of the hygienists have received a diploma/certificate as their basic hygiene education, with smaller numbers indicating a Bachelor or an Associate Degree. The 'Other' category includes those who received their education in the Canadian Armed Forces.

The survey does not determine the numbers and qualifications of dental hygienists who have been educated beyond the diploma/certificate level.

Table 6						
DENTAL HYGIENISTS RESIDENT IN CANADA, BY BASIC QUALIFICATION AND SURVEY YEAR						
Basic Qualification	1976		1977		1978	
	Total		Total		Total	
	%	N	%	N	%	N
Diploma/Certificate	92.9	1564	92.3	1849	91.5	2417
Bachelor's Degree	3.1	53	3.0	61	3.8	100
Associate Degree	2.3	39	1.8	37	1.8	47
Other	0.5	8	0.9	18	1.1	30
Not Stated	1.2	20	1.9	38	1.9	48
Total	100.0	1684	99.0	2003	100.1	2642

Activity Status

Examination of the activity status of dental hygienists in the various Canadian provinces reveals several interesting differences. Refer to Table 7. Although there is a high Canadian rate of employment in dental hygiene, (81.0% in 1978) this encompasses a provincial range from a high of 86.7% in New Brunswick to a low of 61.8% in Saskatchewan.

Table 7							
DENTAL HYGIENISTS RESIDENT IN CANADA BY ACTIVITY STATUS, PROVINCE OF RESIDENCE AND SURVEY YEAR							
Province of Residence	Total	Activity Status					
		Employed in Dental Hygiene		Employed in other than Hygiene		Not Employed	
		%	N	%	N	%	N
CANADA							
1976	1675	78.0	1306	3.0	50	19.0	319
1977	1999	79.6	1591	3.3	67	17.0	341
1978	2612	81.2	2121	3.6	94	15.2	397
Newfoundland							
1976	16	68.7	11	6.2	1	25.0	4
1977	22	72.7	16	-	-	27.3	6
1978	22	77.3	17	-	-	22.7	5
Prince Edward Island							
1976	18	66.6	12	-	-	33.3	6
1977	22	77.3	17	-	-	22.7	5
1978	22	72.7	16	-	-	27.3	6
Nova Scotia							
1976	94	80.8	76	-	-	19.1	18
1977	103	82.5	85	1.9	2	15.5	16
1978	137	75.2	103	5.1	7	19.7	27
New Brunswick							
1976	21	90.5	19	0.5	1	0.5	1
1977	21	90.5	9	-	-	9.5	2
1978	30	86.7	26	-	-	13.3	4
Quebec							
1976	190	86.8	165	4.2	8	8.0	17
1977	311	89.4	278	3.5	11	7.0	22
1978	554	86.5	479	4.5	25	9.0	50
Ontario							
1976	653	76.7	501	2.6	17	20.7	135
1977	740	79.4	588	1.9	14	18.6	138
1978	968	82.3	797	3.2	31	14.5	140
Manitoba							
1976	121	74.4	90	4.9	6	20.7	25
1977	138	69.6	96	8.0	11	22.5	31
1978	160	75.0	120	4.4	7	20.6	33
Saskatchewan							
1976	47	57.4	27	10.6	5	31.9	15
1977	48	68.7	33	8.3	4	22.9	11
1978	55	61.8	34	9.1	5	29.1	16
Alberta & Northwest Territories							
1976	228	74.1	169	2.6	6	23.2	53
1977	279	74.2	207	4.3	12	21.5	60
1978	315	75.5	238	3.5	11	20.9	66
British Columbia and Yukon							
1976	287	82.2	236	2.1	6	15.7	45
1977	315	80.0	252	4.1	13	15.9	50
1978	349	83.4	291	2.3	8	14.3	50

NOTE: The Not Stated information is not included.

A further observation of the information found in Table 7 is that dental hygienists living in the Maritime provinces are less likely to be employed in non dental hygiene positions, compared with hygienists living in other locations in Canada.

A ranking of the provinces, in terms of the rate of participation in the work force of their resident dental hygienists, would produce the following hierarchy, based on the 1978 data.

Table 8

RANKING OF PROVINCES ACCORDING TO RATE OF EMPLOYMENT IN DENTAL HYGIENE, 1978

Province	% Employed in Dental Hygiene
New Brunswick	86.7
Quebec	86.5
British Columbia and Yukon	83.4
Ontario	82.3
Newfoundland	77.3
Alberta & Northwest Territories	75.5
Nova Scotia	75.2
Manitoba	75.0
Prince Edward Island	72.7
Saskatchewan	61.8

Relationship Between Dependent Children And Employment of Dental Hygienists

Table 9 shows the distribution of dental hygienists, employed in dental hygiene, in terms of the hours usually worked per week and dependent children at home. There are few marked changes among the survey years.

Table 9

DENTAL HYGIENISTS RESIDENT IN CANADA, EMPLOYED IN DENTAL HYGIENE, BY DEPENDENT CHILDREN AT HOME, HOURS USUALLY WORKED PER WEEK AND SURVEY YEAR

Status	Hours Usually Worked Per Week							
	Total	35 Hrs. or More		17 to 34 Hrs.		1 to 15 Hrs.		Hrs. Not Stated
		%	N	%	N	%	N	% N
Hygienists Employed in Hygiene in Canada								
1976	1306	55.0	719	28.6	373	14.5	190	1.8 24
1977	1591	55.4	882	29.5	469	15.1	240	- -
1978	2121	51.8	1099	34.9	740	12.4	264	0.8 18
Dependent Children at Home								
1976	321	23.0	74	29.3	94	45.2	145	2.5 8
1977	381	26.8	102	27.0	103	46.2	176	- -
1978	444	23.4	104	33.3	148	41.0	182	2.2 10
No Dependent Children at Home								
1976	914	65.9	602	25.8	4.3	39	1.6	15
1977	1091	65.6	716	33.6	3.6	39	-	-
1978	1546	60.3	932	54.4	4.1	64	0.4	6
Dependent Children Status Not Stated								
1976	71	60.6	43	29.6	21	8.4	6	1.4 1
1977	119	53.8	64	25.2	30	21.0	25	- -
1978	131	48.1	63	36.6	48	13.7	18	1.5 2

The majority of Canadian dental hygienists employed in dental hygiene work 35 hours or more per week. Although the frequency of employment is enhanced considerably if there are no dependent children at home, it is obvious that parenthood does not preclude employment as a dental hygienist. In 1978, hygienists with dependent children at home represented about twenty-one per cent of those working in dental hygiene in Canada, compared with the twenty-four per cent documented in the 1977 survey. The data for all three survey years indicate that only a minority of dental hygienists with dependent children at home choose to work 35 hours or more per week. The preferred frequency of employment falls within the 1 to 15 hours per week category with 17 to 34 hours per week representing the second preference.

Examination of the activity status of all dental hygienists with dependent children at home offers some additional insight into the relationship between dependent children and employment. In Table 10, there is evidence of a gradual increase in the percentage of dental hygienists with dependent children at home, who are employed both in dental hygiene and in other occupations. It is likely that the proportion of unemployed dental hygienists will decline further, if Canada continues to experience a high annual rate of inflation. It could also be speculated that dental hygienists with dependent children will seek part time versus full time employment when they return to work.

Table 10

DENTAL HYGIENISTS WITH DEPENDENT CHILDREN AT HOME BY ACTIVITY STATUS AND SURVEY YEAR

Survey Year	Total	Activity Status					
		Employed in Hygiene		Employed in Other than Hygiene		Not Employed	
		%	N	%	N	%	N
1976	580	55.3	321	3.6	21	23.8	
1977	675	56.4	381	4.4	30	26.4	
1978	754	58.9	444	5.7	43	26.8	
					41.0		
					39.1		
					35.4		

Location of Graduation and Location of Employment

The Databank can also provide information on dental hygienists according to their location of graduation and the province in which they were working at the time of the survey. Table 11 presents this material for each of the three survey years.

Table 11

DENTAL HYGIENISTS EMPLOYED IN DENTAL HYGIENE, BY LOCATION OF GRADUATION, PROVINCE OF EMPLOYMENT AND SURVEY YEAR

Province of Employment & Survey Year	Location of Graduation								
	Total	N.S.	Que.	Ont.	Man.	Alta.	B.C.	For- eign	Not Stated
CANADA									
1976	1306	124	131	491	136	204	91	129	-
1977	1591	141	238	581	147	240	106	113	25
1978	2121	162	453	797	168	253	119	132	37
Newfoundland									
1976	1	6	-	1	-	-	-	4	-
1977	15	10	-	2	-	-	-	3	-
1978	17	11	-	1	3	-	-	2	-
Prince Edward Island									
1976	1	7	-	1	2	-	-	-	2
1977	17	10	-	2	1	2	-	-	2
1978	16	10	-	1	2	2	-	-	1
Nova Scotia									
1976	76	67	-	5	1	-	-	3	-
1977	86	74	-	5	-	-	-	7	-
1978	103	87	-	10	-	-	1	3	2
New Brunswick									
1976	19	13	-	2	1	-	-	3	-
1977	19	11	2	2	-	2	-	2	-
1978	26	19	-	2	-	1	-	1	3
Quebec									
1976	166	5	131	10	-	5	-	15	-
1977	276	6	234	12	-	3	-	7	14
1978	479	5	442	12	-	2	-	3	15
Ontario									
1976	500	18	-	422	13	4	-	43	-
1977	590	21	-	514	9	5	2	31	8
1978	797	17	5	709	9	5	1	41	11
Manitoba									
1976	90	-	-	4	77	2	2	5	-
1977	96	-	-	5	85	2	1	3	-
1978	120	2	1	4	103	3	1	5	1
Saskatchewan									
1976	27	-	-	5	13	8	1	-	-
1977	34	-	-	5	13	15	-	2	-
1978	34	-	-	4	16	13	1	-	-
Alberta & N.W.T.									
1976	169	1	-	6	6	141	3	1	-
1977	205	1	1	10	11	168	3	9	2
1978	238	2	4	18	16	184	2	8	4
British Columbia and Yukon									
1976	236	7	-	35	23	44	85	42	-
1977	253	8	1	25	28	43	100	47	1
1978	291	9	1	36	19	44	113	68	1

Six Canadian provinces have teaching institutions with dental hygiene programs. The data indicate that the majority of hygienists practise in their province of graduation. However, Newfoundland, Prince Edward Island, and New Brunswick, draw on the Nova Scotia graduates. Saskatchewan attracts hygienists from its neighbours, Manitoba and Alberta. The data in Table 11 also indicate that dental hygienists who graduated outside of Canada, but are now employed here, are most likely to settle in British Columbia, Ontario, or Alberta.

Practice of Dental Hygiene

The respondents were asked to estimate the percentage of time in their work devoted to the following activities: clinical services; dental health education; instruction of dental auxiliaries; administration; dental research; and consulting services.

The data indicate that dental hygienists in general and specialty practices spend more than three-quarters of their time performing clinical procedures and less than one-quarter on dental health education. Private practice dental hygienists appear to have negligible responsibilities in the other activity categories. In the public health field, dental health education is a greater area of responsibility than performing clinical services, with only a small percentage of time being spent in administration, etc. Dental hygienists who are employed in post-secondary educational institutions spend about three-quarters of their time in classroom and clinical instruction. They also tend to have comparatively more administrative responsibilities than do hygienists employed in other job situations, although it is still a small area of concern.

Conclusion

This article has provided highlights on the material which is available through the Dental Hygiene Databank. Since the Canadian Dental Hygienists' Association will continue to update this data with the results of each national survey, a comprehensive profile of dental hygiene practice in Canada is being developed and maintained.

The C.D.H.A. would like to facilitate the use of this information by provincial and national bodies involved in dental manpower planning and utilization and in the training and regulation of dental auxiliaries. Therefore, the Association is establishing an Information Centre for the compilation and distribution of materials and data pertinent to the Canadian dental hygiene profession.

RESTORATIVE TECHNIQUES FOR THE DENTAL HYGIENIST: A Short Course

The University of Manitoba is planning an intensive short Restorative Techniques Course for graduate dental hygienists. The course will be offered during the summer of 1980 in the Faculty of Dentistry.

Course attendance will be limited; you are encouraged to indicate your interest immediately.

For further information, contact:

Professor S. Lenz-Gelskey
School of Dental Hygiene
Faculty of Dentistry
University of Manitoba
780 Bannatyne Avenue
Winnipeg, Manitoba R3E 0W3
Phone 204-786-3683

AMENDMENTS TO THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION BY-LAWS:

These changes concern the name change of delegate to director plus a change in the number of days allotted to present reports. Please remove these amendments and place with your copy of the constitution.

These changes are found in "Chapter VI, Elective Officers, Section 4 Duties of Officers, D. Secretary". The underlined words are those to be amended:

3. To co-ordinate the activities of all committees and to systematize the preparation of all reports of such committees, and to submit copies of these reports to all directors at least fourteen (14) days before the annual session of the Board of Directors.

5. To request an annual report from each Committee Chairman sixty (60) days before the annual session of the Board of Directors.

6. To send written notice of the time and place of each session of the Board, and the proposed agenda to be considered to every director not less than fourteen (14) days before any such session.

8. To submit a summary of the proceedings of any session of the Board of Directors, to all directors within thirty (30) days following such session.

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ANSWERS TO SELF-ASSESSMENT TEST

- | | | | |
|------|------|------|------|
| 1. d | 2. d | 3. a | 4. b |
| 5. b | 6. b | 7. a | 8. b |

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Qualified applicants can obtain, and return, applications at the indicated address:

Dental Officer
Mount View Health Unit
101 - 5421 - 11 Street N.E.
Calgary, Alberta, T2E 6M4

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Required by the Foothills Health Unit to work out of the High River office: to participate in Community Prevention, Pre-school and School Programs, in rural areas south of the City of Calgary, surrounding the Town of High River, including the Municipal District of Foothills and the County of Vulcan.

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*Beiswanger, B.B., et al.: J. Dent. Child. 45:137, 1978.



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

SPRING 1980 PRINTEMPS

VOLUME 14, No. 1

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$15.00 per year in Canada and \$22.50 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

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Les opinions exprimées dans les éditoriaux ou dans les articles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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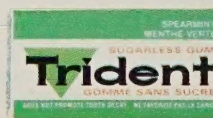
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PROVINCIAL HIGHLIGHTS

ALBERTA: The first reading of Bill 30, a Health Occupations Act which will license a variety of medical and dental personnel, has been given in the Alberta Legislation. The Alberta Dental Hygienists' Association is in the process of lobbying with the government to effect some changes in the current act. Legal counsel has been sought and a brief has been submitted to the Department of Health and Social Services.

SASKATCHEWAN: The Dental Hygiene Program pilot project began Oct. 1, 1979, at Wascana Institute in Regina. D.H.A. has a member sitting on the advisory board to the project. Reports indicate that the program is in full swing and running smoothly. There will be an evaluation of the pilot project on behalf of the Saskatchewan College of Dental Surgeons by a dental hygiene educator from outside the province. Subsequent to this, if the project meets the approval of the Council of the College of Dental Surgeons, graduates will be eligible for licensing without further examination.

MANITOBA: The Manitoba Dental Hygienists' Association Constitution and Bylaws have not been reprinted since August 1975. The committee realizes that there are some articles which are in conflict with the CDHA Constitution. As a result, the committee plans to thoroughly review the MDHA Constitution and Bylaws with the hope of amending and reprinting them in 1980.

NOVA SCOTIA: Plans are well underway for the July 13-16, 1980 National Convention. All committees are working diligently, and it is hoped that the convention will be completely organized by June 1980.

NATIONAL HIGHLIGHTS

A report has been received from our Continuing Education Chairman, Marnie Forgay. The following are Provincial Programs organized to date for Continuing Education Day, March 15, 1980.

B.C.: An Update on Medical Emergencies in the Dental Office.

SASK.: Periodontal Update.

MAN.: Clinical Prevention in Periodo.

N.B.: CPR or Nutrition.

N.S.: Study Club Activities.

P.E.I.: Clinical Periodo.

NFLD.: Patient Motivation

ONT.: THE ODHA in co-operation with the Royal College of Dental Surgeons of Ontario, will provide six courses for hygienists at various locations throughout the province.

2. Elaine Good, CDHA Manpower and Utilization Chairman, has prepared a draft policy statement regarding Unemployment Insurance for the Dental Hygienist. This report defines the present laws governing the eligibility of dental hygienists for unemployment insurance and recommends action to improve the situation. The CDHA Executive Council has submitted the draft policy statement to the Board of Directors for approval.
3. The CDHA would like to see some form of updated insurance coverage offered to dental hygienists across Canada. Mr. Ronald Berry F.I.I.C. has been appointed our Consultant and Agent of Record on all Association insurance programs. This appointment takes effect immediately and thereby replaces any prior agreements.
4. CDHA has sent recommendations to the CFDE Chairman, Dr. Neilsen, regarding priorities for the allocation of funds for hygienists receiving financial assistance from the Canadian Fund for Dental Education.

Cara Tax
CDHA/ACHD Secretary

CONTINUING EDUCATION UPDATE

Dalhousie University:
"Management - The Other
Side of Dentistry"

This course was held at the Dental faculty on September 28 and 29, 1979 with about 85 people in attendance. The participants included dentists, hygienists and the entire staff of some dental offices.

The facilitators were Drs. Wally Mealiea and Lewis Leo from the University of Florida. Dr. Mealiea's background is in clinical psychology and his affiliation at the University of Florida includes being a professor in Basic Dental Sciences, the Dept. of Clinical Psychology, and in the College of Allied Health Professions.

Dr. Leo is Assistant Dean, Auxiliary Programs; Associate Professor of Community Dentistry and an Associate Professor in the College of Health Related Professions.

The program was enthusiastically presented and dealt with such topics as coping with stress, principles of learning, motivation, practitioner - patient interactions, evaluation, communication. Subjects which were also covered in some depth were assistant utilization, management of an expanded duty practice and patient management skills applied to special patients. There was a great deal of discussion and participant interaction with the facilitators. The general consensus was that it was a most worthwhile course which was relevant for all dental health professionals.

Kate MacDonald

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The pamphlet, "Facts Favour Fluoridation" is a 12 page publication and is priced at: \$10 per 100.

They may be obtained from Mrs. Kathy MacTaggart, Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ont. K1G 3Y6.

ADVICE ON RRSP'S AVAILABLE

A 37-page booklet entitled *Registered Retirement Savings Plans* is a CBC Marketplace/Consumers Association of Canada publication by Tom Delaney. It deals with questions including: savings on income tax; types of RRSP's available; mutual funds; comparison of RRSP's, guaranteed certificates, and saving deposit plans; the best plan for you; dividends; reasonable investment return to expect from RRSP; and annuities. To obtain this booklet write:

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- Keeping all items in their original containers;
- Discarding old prescriptions after the illness for which they were prescribed is over;
- Posting a poison-antidote chart inside the medicine cabinet.

A simple review of these preventive tips should go a long way towards preventing needless tragedies in our communities.

SMOKING HABITS OF CANADIAN SCHOOL CHILDREN

A summary of the major findings of a 1978 national survey on the smoking habits of Canadian school children was released to mark this year's National Non-Smoking Week (January 20-26).

The survey was undertaken for Health and Welfare Canada by the University of Waterloo to obtain an accurate estimate of the extent of smoking among school-aged children.

The survey covered all students in grades three to 13 in 409 schools, selected to be representative of the 14,000 such schools in Canada. An appropriate number of both elementary and secondary schools was included from each province and from urban and rural areas. A total of 105,788 students responded to the survey questionnaire.

The survey revealed that by age 12, one-half of Canadian school children have at least tried smoking. By age 14, 55% of boys and 20% of girls are daily smokers and by age 17 these figures have increased to 27% of boys and 30% of girls. Beyond this age, the proportions of students who reported daily smoking did not change significantly. The figures showed some indications that boys who smoke tended to smoke more heavily than girls. In grades 3 and over, having students aged 8 to 19, 47% reported never having smoked at all.

The highest proportions of daily smokers of both sexes occurred in the Atlantic provinces, notably New Brunswick (18%) and Newfoundland (17%). The three westernmost provinces and Quebec were near the national average (13%), while Ontario (12%) and Manitoba (10%) school children had the lowest rates of smoking.

The statistics showed that children with non-smoking parents were somewhat less likely to be regular smokers themselves than those with one or two parents who smoke. A more substantial relationship was shown to exist between the smoking habits of school children and their friends, for both boys and girls. A high proportion of those who smoked regularly reported that most or all of their friends smoked (65% of males, 73% of females).

According to the survey, most students believe that smoking causes lung cancer (83% of boys and 79% of girls), but a substantial proportion reported being undecided on the issue (12% of boys and 17% of girls). Far more regular smokers than non-smokers denied the relationship or were undecided about

it. Students believe that smoking has harmful effects on health, other than lung cancer, non-smokers more so than smokers. Smokers, however, are more likely to admit this relationship than the lung-cancer-smoking relationship.

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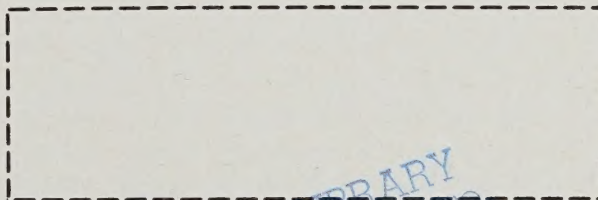
"Personal gifts from dentists and dental hygienists soared to a record high of \$70,660 in 1979, fifteen percent more than in any previous year, and we are deeply grateful for their generosity and leadership," it has just been announced by Fund Chairman Dr. James A. Guest.

"Not to be outdone, our many friends in business and industry also responded generously with gifts of over \$80,000 for a new all-time high. Their substantial help is equally appreciated."

"These record contributions pushed our 1979 income to well over \$200,000 and are an excellent example of professionals and business firms working together for the benefit of all concerned," said Dr. Guest.

WAS THIS JOURNAL CORRECTLY ADDRESSED?

Every copy of the journal returned to us costs the Canadian Dental Hygienists' Association approximately fifty cents. If you are moving permanently, please let us know two months before changing your address. If the address label on this publication is not correct, please clip it, then paste it in the blank provided and mail this entire coupon to us, including your new address! Thank you. (Any returned journals marked "moved" or "address unknown" will not be remailed until the member submits a change of name and/or address.)



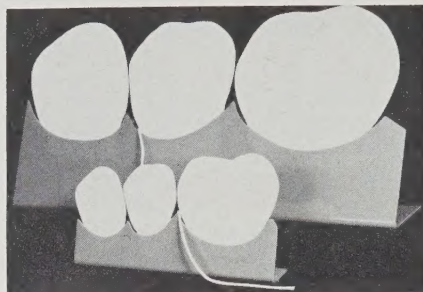
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In Memorium

At 27 years of age, Donalda Bryn Gauthier nee Pilley, passed away with child, after a brief illness, on October 1979. Dona was a graduate of the University of Manitoba and held office as the 1978-79 president of the Manitoba Dental Hygienists' Association. During her presidency, Dona initiated many "sparks" in the areas of continuing education, auxiliary legislation, membership, and fundraising which contributed to the great success of her provincial chapter. Everything that she undertook was carried through with great spirit and competence, and those who grew to know her will find Dona's presence deeply missed.

A Donalda Pilley-Gauthier Memorial Award has been established by members of her family. It will be awarded to the first year dental hygiene student for overall achievement. Donations to the award are to be forwarded to:
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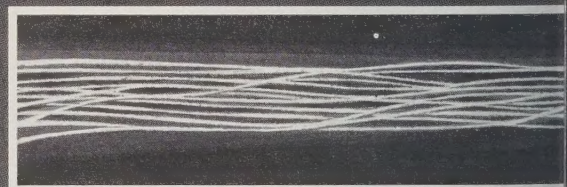
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BOOK REVIEW

CURRENT CONCEPTS IN DENTAL HYGIENE

Edited by S.E. Bounty and N.J. Reynolds. Volume two, 257 pages with 146 illustrations. \$22.75. C.V. Mosby Company, Toronto, Ontario, 1979.

This informative book is an expansion of Current Concepts in Dental Hygiene, Volume One and consists of twenty-four chapters as opposed to fourteen chapters in the previous volume. Each chapter is well referenced and concisely written by an author who is knowledgeable in a specific area of dental hygiene. All subjects are dealt with singularly and are of current interest to both the dental hygiene student and the practising dental hygienist.

Basic dental hygiene competencies are discussed, such as: evaluation of gingival conditions; sharpening of curets and application of pit and

fissure sealants. More specialized topics include: nutrition in pregnancy and lactation; management of pedodontic and geriatric patients; four-handed procedures; and scheduling an expanded functions office. Subjects of interest to all are: coping with stress; professional liability and career options for the dental hygienist.

"Current concepts" is an update of basic knowledge which reflect some of the exciting changes in dental hygiene. It is not comprehensive enough to serve as a text but is a pertinent reference for practising hygienists, dental hygiene students, and teachers who wish to begin or continue their professional life long learning.

*Susan Swanton, B.Sc.D.,
Ridgetown, Ontario.*

PATIENT-PROVEN Losses



RISK OF HEPATITIS B

The following article was initially presented by the Canadian Dental Association in their September, 1979 issue of Communique (Vol. 3, No. 2). Although the article does not indicate the risk to dental hygienists directly, we feel that its message is important and worthy of your consideration.

BLOOD TEST COULD PROTECT DENTISTS

A simple blood test, now routine with all blood donors, could protect dentists and other health care professionals from the dangers of Hepatitis B infection, according to Dr. James Main, an oral pathologist at the University of Toronto.

Hepatitis B is more common in certain parts of the world than others. The Mediterranean area and South East Asian countries have a greater incidence of the virus than Canada. The reason why is unknown.

There is renewed awareness about Hepatitis B recently because of the large number of Vietnamese refugees in, and expected to enter, Canada. If 50,000 refugees relocate in this country, statistics indicate up to 7,000 of them could be carriers. (Less than one per cent of Canadians are Hepatitis B carriers.)

Many dentists, particularly in the Montreal, Ottawa, Edmonton, Toronto and Vancouver areas, where large groups of refugees are being settled, are offering their services without being fully aware of the risk involved in treating Hepatitis B carriers, says Dr. Main.

Because Hepatitis B is secreted by carriers through the blood and saliva, dentists and dental nurses are particularly vulnerable to infection. According to

Dr. Main, the cost of the blood test to detect carriers (estimated at around \$10 a test on a one-shot basis) is greatly reduced when conducted on a mass scale as would be possible with the influx of "boat people". The subsequent reduction in risk by exposure to dentists and other health care personnel, as well as to the general public, is well worth the investment, he says.

Hepatitis B was once known as 'serum jaundice'. After infection, patients may remain carriers for years. Carriers have not themselves had the disease, but people with a developed immunity, may have.

According to Dr. Main, the best way to give dental care to known Hepatitis B carriers is in clinics set up specifically for that purpose. In Britain such clinics have been established. They are, ideally, staffed by dentists and nurses who are immune to the virus and who wear full surgical dress including gowns, masks and gloves while attending the patient. High speed drills are not used because they create vapor clouds or aerosols that transport the virus out of the immediate area where it can infect other people.

After treatment, everything — instruments and clothing — must be sterilized. "This is a complex, costly and time-consuming procedure", says Dr. Main, "and facilities of this sort just don't exist in Canada".

In the end, the best way for individual dentists in this country to protect themselves, their staff and their other patients from infection, is to refer known Hepatitis B carriers to hospital clinics where extensive sterilization procedures can be followed.

If, however, a dentist learns that a patient is a carrier after the fact, the dentist and anyone else who may have been in contact with the carrier should receive an injection of globulins. Then the whole office area should be swabbed down and instruments and clothing sterilized.

RECOMMENDATIONS CONCERNING VIETNAMESE REFUGEES REQUIRING DENTAL TREATMENT

1. Due to the high risk factor to the dentist and office personnel, all refugees should be tested to see if they carry Hepatitis B virus prior to being given any dental care.
2. Where emergency dental treatment is required, it should be assumed that all refugees are Hepatitis B virus carriers and treatment should be provided only on the basis of number 4, below.
3. Refugees who are found to be Hepatitis B negative may be treated in the customary manner without any special attention.

4. Hepatitis B carriers should only be treated under conditions of full surgical asepsis, ie. gowning, capping, gloving and masking of dentist and nurse; all equipment and protective clothing must be sterilized before they are washed; all working surfaces, floors and dental equipment must be sterilized by swabbing with activated glutaraldehyde; avoid use of equipment causing aerosol such as turbine drills, ultrasonic scalers, etc.; treatment of Hepatitis B carriers to be done at the end of the working day.
5. Canadian dentists are encouraged to determine their own antibodies status to hepatitis B virus so that dentists immune to the disease may be identified.
6. That provincial governments be requested to establish one special dental unit for the treatment of Hepatitis B virus carriers in each major population centre.

As a result of the Canadian Dental Association's intervention, the government has implemented comprehensive screening. Hubert Drouin, CDA Executive Director, has informed us that, most likely, refugees that are positive will be referred to Provincial Ministries of Health for treatment.

LES DANGERS D L'HÉPATITE CIRCONVENUS GRÂCE À UNE PRISE DE SANG

L'hépatite de type B est un danger sérieux auquel sont exposés tous les spécialistes, y compris les dentistes. Selon le docteur James Main, spécialiste en pathologie buccale de l'Université de Toronto, il suffirait d'une simple prise de sang pour les en protéger. Aujourd'hui, cette précaution est d'usage courant parmi les donneurs de sang.

Cette maladie est plus répandue dans certaines régions du globe que dans d'autres. Ainsi, pour une raison que l'on ignore, on a observé qu'elle se propage davantage dans les pays du bassin méditerranéen et du Sud-Est asiatique alors que son incidence est relativement peu élevée au Canada.

A cause du grand nombre du réfugiés vietnamiens que le Canada accueille actuellement, l'hépatite de type B suscite de nouvelles inquiétudes. En effet, les statistiques révèlent que, des 50,000 réfugiés attendus, jusqu'à 7,000 pourraient être des porteurs de la maladie. Or, parmi les Canadiens, on en compte moins de un pour cent.

Dans les régions de Montréal, Ottawa, Edmonton, Toronto et Vancouver, là où l'on prévoit établir le plus grand nombre de réfugiés,

déclare le docteur Main, des dentistes offrent leurs services sans connaître pleinement les risques qu'ils encourent en prodiguant des soins à des porteurs de la maladie en question.

Parce que le virus hépatique est sécrété dans la salive et dans le sang des sujets porteurs, les risques d'infection sont particulièrement élevés pour les dentistes et leurs assistantes. Selon le docteur Main, le coût d'une prise de sang effectuée pour repérer les porteurs est estimé à environ \$10.00. Cependant, ce coût peut être considérablement abaissé lorsqu'il s'agit d'un groupe nombreux, comme c'est le cas avec les réfugiés vietnamiens actuels. Par ailleurs, ajoute encore le docteur Main, cette dépense net peut que tourner à l'avantage des dentistes, des autres spécialistes et du public en général, puisqu'il s'agit de prévenir les risques d'infection auxquels ils sont exposés.

L'hépatite de type B était jadis connue sous le nom de jaunisse. Ceux qui en sont atteints peuvent en être porteurs pendant de nombreuses années. Il est possible aussi qu'ils ne souffrent jamais eux-mêmes de la maladie mais les sujets immunisés peuvent très bien la contracter.

Au dire du docteur Main, la meilleure façon de prodiguer des soins dentaires aux sujets porteurs de cette maladie virale, c'est de les traiter dans des cliniques spéciales comme celles qu'on trouve présentement en Angleterre. En principe, le personnel de ces cliniques se compose de dentistes et d'infirmières qui sont immunisés contre le virus hépatique et qui, lorsqu'ils traitent leurs patients, portent toujours le costume chirurgical complet, à savoir la robe, le masque et les gants. Ils évitent même d'employer des foreuses à haut régime parce qu'elles peuvent créer des nuages de vapeur out de poussières contaminés susceptibles de répandre l'infection. Après chaque traitement, tous les instruments et tous les vêtements chirurgicaux sont soigneusement stérilisés. "C'est là une opération complexe qui est longue et coûteuse," de dire le docteur Main, "mais on ne trouve pas ce genre de clinique au Canada."

Tout bien considéré, les dentistes canadiens doivent prendre les mesures nécessaires pour se protéger et protéger leur personnel de même que leurs autres clients contre l'infection. Le moyen le plus sûr est sans doute d'envoyer tous les sujets porteurs reconnus comme tels dans les hôpitaux où la stérilisation chirurgicale est assurée. Toutefois, si un dentiste découvre qu'il a traité un patient infecté, il doit lui, et toutes les personnes qui auraient pu être en contact avec le patient, recevoir une injection

de globulines. De plus, il lui est recommandé de faire désinfecter complètement son bureau ainsi que de stériliser ses instruments et ses vêtements.

The following article has been reprinted by permission from the British Dental Journal (Vol. 146, No. 9), and provides further guidelines concerning treatment of patients who have a positive reaction for hepatitis B surface antigen.

HEPATITIS IN DENTISTRY

The Expert Group was set up at the invitation of the Chief Medical and Dental Officers of the Health Departments of Great Britain with the following terms of reference:

'To advise the Chief Medical and Dental Officers of the Health Departments of Great Britain on whether patients known to have a positive reaction for hepatitis B surface antigen (HBsAg) may be given treatment in general dental practice and, if so, the forms of treatment that may be undertaken and the precautions necessary to avoid the risk of infection of staff and other patients.'

These terms of reference were intended to include consideration of the risks to patients from dentists and members of their staff who were antigen-positive.

A small but unknown proportion of healthy individuals have a positive reaction for hepatitis B surface antigen (HBsAg); a few of these are discovered, e.g. when volunteering to become blood donors. Tests of infectivity have not yet been developed and it is not known how many of these individuals are infectious; nor has it been possible to quantify the degree of risk which exists. Since known carriers are a minority among the total population of carriers, refusing dental treatment for them would not greatly reduce whatever degree of risk there is to dental surgeons and ancillary dental workers.

There is evidence that some patients known to be antigen-positive are finding it difficult to obtain treatment in the general dental services. Expanded guidance is needed in a circular to replace that issued by the Department of Health and Social Security in 1972 (ECN 930) which, although it assumed that dentists in general dental services should treat such patients, reminded them only briefly of the precautions required. Any new circular should also explain the compensation arrangements under the N.H.S. (Injury Benefits) Regulations 1974 for general dental practitioners and under individual injuries legislation for dentists employed by health authorities, in respect of hepatitis contracted in the course of work for the National Health Service.

RECOMMENDATIONS

Patients who are known to be Symptomless Carriers of Hepatitis B Surface Antigen

(1) Those who are known to be symptomless carriers of hepatitis B surface antigen, and who are not in the special categories referred to in paragraph 4, may and should be treated in the general dental services provided reasonable precautions can be taken. These should include the following:

(i) The wearing of suitable gloves by dental surgeons and ancillary dental workers when working in the mouth, and by all surgery staff when cleaning instruments, benches or other surfaces or preparing materials for sterilisation or disposal.

(ii) The sterilisation (see Appendix) of all instruments that are to be reused, including conventional low-speed handpieces (see vii below).

(iii) The use, wherever possible, of disposable instruments and dressings, which should preferably be incinerated after use or, failing this, sterilised and then discarded. Disposable instruments must never be reused.

(iv) The use of a fresh cartridge of local analgesic and a new disposable needle for each patient; this must be universal practice. Resterilisable needles must not be used.

(v) The wearing of spectacles (or eyeshield) and a facemask.

(vi) The disinfection (see Appendix) of all working surfaces.

(vii) The use of (a) conventional low-speed handpieces of a sterilisable type, and (b) traditional methods of scaling. High-speed handpieces and ultrasonic scalars can contribute to considerable splashing of blood and particulate matter which increases the risk of infection to the dentist and his staff.

(viii) Wherever possible, known carriers should be treated at the end of a session.

(2) If these precautions are taken all routine forms of dentistry, including surgical and conservative treatment, can be carried out with minimal risk.

(3) The use of similar precautions to those in (i) to (vi) above when treating all patients would substantially reduce the small risk of contracting hepatitis from those symptomless carriers who have not been recognised as such; these constitute the majority of all carriers.

Special Categories of Patients

(4) The following are the main categories of patients, whether or not known to be HBsAg positive, who should be treated in hospital dental departments that have appropriate facilities. In certain circumstances these patients may present a higher risk of infection to dentists and their staff and many

of them are known to be specially at risk of infection with hepatitis B.

(i) Patients with chronic renal failure who are receiving, or are likely to receive, regular dialysis treatment and patients who have had a renal or other organ transplant.

(ii) Patients receiving long-term immunosuppressive therapy.

(iii) Patients with haemophilia and others with haematological disorders who receive multiple transfusions of blood or blood products.

(iv) Patients from institutions for the mentally handicapped. (Mentally handicapped patients living at home do not constitute a special risk.)

(v) Known drug addicts.

(vi) Patients suffering from jaundice which is thought to be infective in nature and those who have suffered from such jaundice within the previous 6 months.

Accidental Inoculation or Contamination

(5) A dentist or member of his staff who gets blood from a known carrier into a cut or abrasion or into the eye or mouth should wash the affected area well and telephone the nearest public health laboratory for advice.

Availability of Immunoglobulin

(6) Supplies of anti-hepatitis B immunoglobulin are held by the Public Health Laboratory Service for prophylaxis after the accidents mentioned above.

The Risk of Infection to Patients from Dentists and their Staff

(7) Dentists and members of their staff who are antigen-positive but have no clinical symptoms and are not known to have transmitted the infection may continue working in general dental practice, but must always wear gloves when treating patients. Cuts and abrasions must be covered so that blood from the dentist or staff member cannot be transferred to the patient. There is no evidence justifying further restriction of their clinical activities.

(8) A dentist or a member of his staff who contracts hepatitis may return to normal practice when clinical recovery is considered by his medical adviser to be complete.

Appendix

Sterilisation or Disposal of Instruments, etc.

(i) All non-disposable instruments should be rinsed and sterilised immediately by saturated steam in an autoclave, e.g. at 134°C for 3 minutes or by hot air, e.g. at 160°C for 1 hour.

(ii) After use, all disposable used instruments should be placed in an impervious container (for sharp instruments this should be of metal or thick

cardboard) and incinerated, or, if appropriate, autoclaved.

(iii) Non-disposable gloves should be resterilised by autoclaving.

Disinfection

(i) All instruments that cannot be sterilised by heat should be disinfected by immersion in a suitable disinfectant solution (see below) for at least 1 hour. This is less satisfactory than sterilisation by heat.

(ii) Hypochlorite solutions corrode metal equipment, which must be disinfected with an aldehyde disinfectant if cannot be sterilised by heat.

Disinfectant Solutions

(i) *Hypochlorite solution containing one per cent of available chlorine.* A 1 per cent dilution of a commercial hypochlorite solution containing 10 per cent of available chlorine (e.g. 'Chlorox' 'Domestos').

(ii) *Aldehyde solutions*

(a) Glutaraldehyde 2 per cent.

'Cidex' is a 2 per cent solution to which an activating powder is added before use to make a buffered alkaline solution which is stable for 14 days.

(b) Formaldehyde 4 per cent.

A 10 per cent dilution of Formaldehyde Solution BP ('Formalin').

(iii) All dilutions should be freshly prepared.

Expert Group on Hepatitis in Dentistry

Membership

Professor Sir Robert Williams, M.D. F.R.C.P. (Chairman), Director, Public Health Laboratory Service.

Dr. G.C. Blake, M.B., B.S., F.D.S. M.R.C.S., L.R.C.P., Consultant Microbiologist, Institute of Dental Surgery, Eastman Dental Hospital.

Dr. T.H. Flewett, M.D., F.R.C. Path. M.R.C.P., Regional Virologist, W. Midlands Regional Health Authority.

Professor A.C. Kennedy, M.D. F.R.C.P., University of Glasgow, Department of Medicine.

Sir William Maycock, C.B.E., M.V.O. M.D., F.R.C.P., F.R.C.Path., lately Director, Blood Products Laboratory, National Blood Transfusion Service.

Dr. Sheila Polakoff, M.D., Consultant Epidemiologist, Epidemiological Research Laboratory, Central Public Health Laboratory.

Professor C.E. Renson, Ph.D., B.D.S. D.D.P.H., L.D.S., Department of Dentistry, University of Hong Kong (formerly Reader in Conservative Dentistry, London Hospital Medical College Dental School).

Professor A.J. Zuckerman, M.D. D.Sc., F.R.C.Path., Dip. Bact., Director of Microbiology, London School of Hygiene and Tropical Medicine.

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SELF-ASSESSMENT TEST

The 1980 series of Self-Assessment Tests will be provided by dental hygiene educators at the University of Alberta, Edmonton, Alberta. The first test, which reviews Periodontics, is composed of three sections. In Section A, circle your answer (only one is correct for each question) and, in section B, indicate whether the statement is true or false.

When you have completed the test, turn to page 24 for the correct answers.

PART A

1. Which of the following healthy gingival tissues is generally not stippled?
 - a) *attached gingiva*
 - b) *interdental gingiva*
 - c) *marginal gingiva*
 - d) *anterior palatal gingiva*
2. The interdental col occupies the area between:
 - a) *facial and lingual interdental gingiva.*
 - b) *facial and lingual attached gingiva.*
 - c) *distal and mesial interdental gingiva.*
 - d) *distal and lingual interdental gingiva.*
3. The pathway for the spread of inflammation from the gingiva into the alveolar bone generally follows the course of:
 - a) *densely arranged connective tissue.*
 - b) *densley arranged connective tissue around blood vessels.*
 - c) *loosely arranged connective tissue.*
 - d) *loosely arranged connective tissue around blood vessels.*
4. The periodontium includes:
 - a) *gingiva.*
 - b) *alveolar bone.*
 - c) *periodontal ligament.*
 - d) *cementum.*
 - e) *alveolar mucosa.*
5. The blood cells which first infiltrate the tissues in response to an acute infection are the:
 - a) *basophil.*
 - b) *monocyte.*
 - c) *eosinophil.*
 - d) *neutrophil.*
 - e) *none of the above.*
6. Marginal gingiva:
 - a) *is demarcated from the attached gingiva by the free gingival groove.*
 - b) *is the soft tissue apical to the mucogingival line.*
 - c) *is always stippled in health.*
 - d) *should be firmly attached to the tooth and alveolar bone.*
7. Many misconceptions prevail about Acute Necrotizing Ulcerative Gingivitis. Which statement is true?
 - a) *Clinical evidence shows that the disease is usually a contagious infection.*
 - b) *Systemically administered antibiotics are the best means of treating the disease.*
 - c) *The disease, usually caused by anaerobic organisms, can be treated successfully by use of locally applied oxidizing agents.*
 - d) *The disease is usually found to occur in persons who are "run down" physically.*

PART B

1. The sulcular epithelium is non-keratinized.

2. The largest area of attached gingiva is usually found in the maxillary and mandibular incisor regions.

3. The blood supply to the gingiva is suprapariosteal.

4. In contrast to the alveolar mucosa which appears reddish, the attached gingiva is pink. This is because the attached gingiva is keratinized and the alveolar mucosa is non-keratinized.

5. Increased amounts of sulcular fluid are directly related to the severity of gingival inflammation.

6. Polymorphonuclear leukocytes are the predominant inflammatory cells in acute necrotizing ulcerative gingivitis.

7. The distance from the bottom of the calculus to the bottom of the epithelial attachment is almost constant.

8. The sulcular epithelium and the epithelial attachment are usually completely removed during subgingival scaling and root planing.
9. Bleeding upon probing, seen in periodontitis, is mainly due to an increased vascular permeability.

10. A true periodontal pocket shows migration of the epithelial attachment whereas a pseudopocket does not.

11. The pathway of the inflammatory exudate is normally into the periodontal ligament.

12. The deepening of the gingival sulcus always results in loss of supporting periodontal tissues.

13. In a suprabony pocket, the epithelial attachment lies apical to the underlying alveolar bone.

14. The utilization of radiographs in the identification of the extent of gingivitis is essential.

15. Occlusal trauma, by itself, does not cause an apical migration of the epithelial attachment.

16. Therapeutic dose of Vitamin C will affect gingival bleeding.
- Marga Pittman
Instructor, Dental Hygiene Program
Univeristy of Alberta

CALL FOR TABLE CLINICS

1980 CDHA Convention and Scientific Program
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The 1980 CDHA Convention Committee invites members to submit topics for table clinic presentation to take place during the 1980 Convention. As this is an opportunity to share information with other members of your profession, we encourage as many as possible to take advantage of this avenue for information sharing.

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PROFILE OF THE VANCOUVER DENTAL HYGIENE PERIODONTAL STUDY CLUB

STEPHANIE BRAWN, B.A., R.D.H.

HISTORY

The Study Club group as a post-graduate learning facility has long been an institution in dentistry. Recently, this concept has been adopted by the dental hygiene profession, and it appears as though this could become one of the more useful continuing education programs for maintaining and improving good clinical skills and introducing new ones.

In the spring of 1974, another hygienist and I were approached by a group of hygienists in Vancouver to mentor a periodontal study group. With their interest and enthusiasm and the apparent need for such a program, we were excited about spearheading one of the first (if not the first) study club in Canada given for hygienists by hygienists.

The need for upgrading or honing dental hygiene skills in the area of periodontics has been clearly demonstrated by the demand that has been placed upon us. Over the past decade, there has been an increasing awareness of prevention in dentistry by the public, and an awareness of the fact that periodontal disease exists in some form in most, if not all, adults. A definite strain has thus been placed upon general practice dentists and their hygienists to recognize this disease at an earlier more manageable stage, and to then treat it successfully.

The need, then, began at the patient level and was transmitted to the operator (dentist/hygienist who may have felt less than adequately informed or skilled in the area of treating periodontal disease in the general practice. The routine duties of the hygienist have been pushed far beyond the traditional rubber cup prophylaxis and topical application of fluoride, and our patients and our employers are now demanding the sort of treatment of which a skilled hygienist is capable. Some hygienists have never had the opportunity to perform root planing skills in their practices and have therefore been restricted to superficial scaling procedures. After remaining in one practice for more than one or two years, it would not take long for the conscientious, if not curious, hygienist to note that, for many of her patients, the supragingival scaling may not have aided in reducing or even eliminating tooth mobility, noxious taste and odour, bleeding gingiva, and increasing pocket depth. To constantly work in a situation such as this is depressing, at best. In Vancouver, there were some hygienists who felt that there was far more that they could and should be doing regularly for all their patients. Moreover, they felt that there was far more to the profession of dental hygiene than scaling and applying fluoride. It is at this point that my colleague and I were approached, and thereby drafted an acceptable format for the first Study Club in British Columbia.

ORGANIZATION AND DEVELOPMENT

It was decided that attendance would be limited to ten to twelve members. We then faced the problem of locating a clinical facility. My colleague, Mrs. Sandra Chernoff, was fortunate in obtaining the use of a clinic belonging to the Kerrisdale Dental Health Group in Vancouver. With eight chairs in an open area concept, it had a large waiting room where slide presentations, discussions, and any other non-clinical sessions could be held.

At the present time, our meetings are held on a weekday evening from 7:30 p.m. until approximately 11:00 p.m. We cannot meet on a Saturday because the clinic is in use on Saturdays.

Further, we must have a dentist on hand at each session where we have patients, and each member is responsible for bringing her employer once. This "technical matter" has proven to be of interest for each dentist who has come, for it has allowed many dentists to, in effect, peer in on just what we do at our study group clinical sessions. Their inclusion in at least one session provides excellent communication for the hygienist and her employer regarding the establishment of a new periodontal emphasis in the office. Many of the patients require local anesthetic for treatment, and, even though those hygienists who have successfully completed and passed the expanded duty course in local anesthetic may administer it, a dentist must be present.

We insist upon each member carrying her own malpractice insurance. Each of our members must be a member in good standing of the British Columbia Dental Hygienists' Association. (B.C.D.H.A.)

Patients are arranged by the members of the Study Club. The members work in pairs, with one patient per pair. Generally, there has been no problem recruiting patients from respective practices, and employing dentists have been eager to please in this respect.

At the first meeting each year, each patient is carefully screened for suitability. (ie. clear medical history, suitable periodontal problems.) A full mouth survey of x-rays is required, and any other records that may be available are requested.

Each group meets for two years and then a new group begins. We have attempted to run a new and an old group concurrently, but found this arrangement confusing. We have also experimented with meeting twice per month and once per month, and feel that twice per month is preferable. Seeing a patient every two weeks offers a better opportunity for the development of a good rapport and a successful follow-up to oral hygiene procedures. Twice per month someone approaches an office situation, where the hygienist may see her patient once a week until completion.

PROGRAM OUTLINE OF CLINICAL AND NON-CLINICAL STUDY FOR THE VANCOUVER DENTAL HYGIENE PERIODONTAL STUDY CLUB

Location of meetings: Open area dental clinic, Vancouver, B.C.

Length of meetings: 7:30 p.m. - 11:00 p.m. (3½ hours).

Number of meetings: Once a month from September to May (9 meetings). The Sept. through April meetings are composed of 1½ hours of lecture and discussion and 2 clinical hours. The last meeting in May is devoted to clinical work exclusively.

Duration of club: Two years for each group.

Number of hygienists per group: 10 - 12.

GOALS OF A PERIODONTAL STUDY GROUP

The basic goals of each study group should be identified early on, at a group meeting during the Spring or Summer preceeding the first Fall clinical session. Each group will want to achieve different goals, and, therefore, the outline for the program will have to continually be altered. We have found that some groups are keenly interested in upgrading clinical skills (the initial reason for inaugurating a periodontal study club), whereas other groups are more interested in adopting a more passive role. In these situations, we have found it useful to invite guest speakers on various topics such as occlusion and nutrition. Our final meeting is somewhat of an open forum, where all the employers are invited to participate in a round-table discussion with a periodontist present. This concept has proven to be very acceptable.

The following are some of the objectives of our Study Club:

- 1) To generally upgrade the standard of treatment for periodontal disease by licensed dental hygienists.
- 2) To learn new and effective instrumentation in root curettage, soft tissue curettage, and overhang removal.
- 3) To bring to the awareness of participants the difficulties involved in recognizing the subtleties of periodontal disease at an early and more manageable stage.
- 4) To demonstrate effective instrument sharpening. By the end of the year, each participant should be able to recognize the difference between a fairly sharp instrument and one that is well and properly sharpened.
- 5) The participant will learn to read and interpret radiographs as they pertain to periodontal disease.
- 6) Through demonstration, clinical sessions, discussion and slides, a more thorough under-

standing of the complexities of treatment will be generated.

- 7) The participants will be encouraged to engage in discussion and to bring to each session any knowledge that she finds useful and worthwhile to the Study Club.
- 8) Visiting lecturers will be brought in to widen the scope of the field with which we are dealing.

In British Columbia, we have mandatory continuing education for re-licensure. This has been in effect since January 1979. This Study Club will be applying for hour per hour credit for its members, and, therefore, will represent one other vehicle for gaining credits towards re-licensure.

The B.C.D.H.A. has a well designed Study Club Guideline for any new group that wishes to begin a study club in B.C. and know that it is operating within the standards of the B.C.D.H.A.

ACKNOWLEDGEMENTS

The author wishes to thank the Kerrisdale Dental Health Group for the use of their clinic for five years, and Drs. R. and J. Zokol for the use of their facility for one year.

The author also wishes to thank each dentist who came to our clinical evenings and each of our visiting speakers, Dr. A. Ogilvie, Dr. R. Thordarson and Dr. J. Nasedkin.

A special thanks to my co-mentor, Sandra Chernoff, who has exhibited an enormous amount of patience and enthusiasm over the years.

An extra thanks to Linda Baldwin who has done all of our typing.

REFERENCES

Program Planning Guide for Health Professionals. Developed by: Dept. of Adult Education and Division of Continuing Education in the Health Sciences, University of British Columbia, Vancouver.



Stephanie is the co-mentor of the Vancouver Dental Hygiene Periodontal Study Club and practises hygiene in a periodontal office in Vancouver. In the past, Stephanie has given numerous guest lectures on periodontal subjects to various dental and dental auxiliary groups. This issue's front cover features two members of the Vancouver study club, Ava Yip and Lillian Mah, during one of their clinical sessions. Ava and Lillian are sisters and are graduates of U.B.C.

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USE OF FILES IN CONSERVATIVE PERIODONTAL THERAPY

MARJORIE J. DIMITRI, R.D.H., M.Ed.
JOAN S. VORIS, R.D.H., B.Sc.

Marjorie Dimitri is an Assistant Professor in the Department of Preventive and Community Dentistry and Second Year Coordinator for the Program of Dental Hygiene at The University of British Columbia in Vancouver. Joan Voris is an Assistant Professor in the Department of Preventive and Community Dentistry and Supervisor of the Program of Dental Hygiene at The University of British Columbia in Vancouver.

The benefits of the smoothing of tooth surfaces by means of various types of instruments are well documented (1-5). Also recognized are the inherent difficulties imposed upon such instrumentation by variations in tooth morphology (6) and positioning, existing conditions of the periodontium, and adaptability of the instruments themselves. In this article, consideration will be given to the file and its use in conservative periodontal therapy.

DESIGN AND SELECTION

The file is a hand instrument with a working end consisting of multiple blades systematically arranged on a flat base. Each blade in the series is similar to but smaller than the blade of a hoe. The angulation of the blades in relationship to the base varies from 90 to 105 degrees. The base itself may be rectangular, round, or oval in shape. There are several different series of files. In each, the working end is the same on all instruments, but the shank angulations are varied to facilitate adaptation to any tooth surface (Figure 1). Of the numerous types of files available, each has

its advantages and disadvantages. For periodontal instrumentation, files with the following characteristics are recommended: blade angulation of 90 degrees to base, oval-shaped base, and relatively small working end which is both narrow and shallow (Figures 2, 3). Such files are smaller and flatter than most other scaling and root planning instruments, enabling them to be inserted and adapted with little tissue displacement in areas oftentimes otherwise inaccessible.

In conservative periodontal therapy, the file is used for removal of calculus, root planing, smoothing of tooth surfaces at the cemento-enamel junction, and reduction of overextended amalgam restorations (7). In particular, files are effective for instrumentation in deep, narrow-mouthed pockets, tortuous irregular pockets, flutings, furcations of multirooted teeth, and areas of tooth and/or root proximity.

The selection of specific files to be used is dependent upon the procedure to be performed as well as the intraoral conditions. The ones described here are among those currently used by the Program of Dental Hygiene at The University of British Columbia.

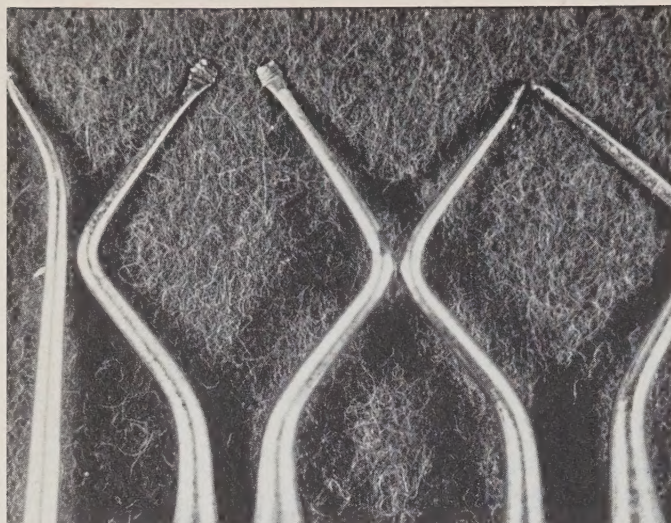
SOME OF THE MANUFACTURERS
OF PERIODONTAL FILES

FIGURE 1: Hirschfeld series of files.

Hirschfeld Series (1/5, 3/7, 9/10). These files have three blades on a small, oval base. They are available with several shank angulations and, when used in a series, can be adapted almost anywhere in the mouth. The most adaptable of the series is the H 1/5. These files are recommended for removing small amounts of calculus and for smoothing of root surfaces. They are particularly useful in deep, narrow pockets and furcation areas.

Rhein 31/32. This file, often referred to as the "bedbug", has approximately ten blades on an exceptionally flat, oval base. It is a fine instrument which is recommended for final smoothing and finishing only. The size of the base and the relatively straight angulation of the shank of this file somewhat limit its adaptability in many areas. Also, because of the number and small size of the blades, it is the most difficult file to sharpen.

Ratcliff (U.C.) Series (16/17, 18/19). These files have five blades on a relatively large, oval base. They are available in several shank angulations and, when used as a series, are adaptable almost anywhere in the mouth. The most adaptable one is the R 18/19. Because of their larger size, these files are recommended for the crushing or fragmentation of heavy calculus deposits, and the reduction of margins on overextended amalgam restorations. As there is increased possibility of grooving with this file, it should be followed by use of a finer file and/or a curette.

Periodontal files with the same designer name and numbers can vary considerably in size, shape and type of steel from one manufacturer to another. Therefore, it is important to evaluate those available according to the desired specifications and intended use. Some of the manufacturers of periodontal files are listed in Table 1.

American Dental Manufacturing Company
Box 4546,
Missoula, Montana, U.S.A. 59801

G. Hartzell & Son,
P.O. Box 5955,
Concord, California, U.S.A. 94520

Hu-Friedy Manufacturing Company,
3118 N. Rockwell Street,
Chicago, Illinois, U.S.A. 60618

Star Dental Manufacturing Company,
Ford Bridge Road,
Conshohocken, Pennsylvania, U.S.A. 19428

S.S. White Company
211 South 12th Street,
Philadelphia, Pennsylvania, U.S.A. 19105.

CLINICAL APPLICATION

In using the file, the multiple cutting edges are brought into contact with the tooth surface, deposit or amalgam restoration requiring instrumentation (Figure 4). The instrument is then activated in a coronal direction with a firm, straight-line push stroke. Whenever possible, all cutting edges are engaged during this movement to maximize instrumentation. Pivoting strokes or circular motions cause uneven application of the file's blades which results in grooving of the cementum (8) and/or tissue trauma. It is recommended that the tooth surface be planed with a curette following the use of a file since research has demonstrated that a greater degree of smoothness can be attained (9). However, it must be remembered that one of the major advantages of the file is that it can reach the bottom of deep periodontal pockets where the space may be so narrow that a curette cannot be brought into an effective working position (10).

SHARPENING

The file is probably the most difficult instrument to sharpen. Each blade must be sharpened individually to the same height and angulation, and the original shape of the working end must be maintained. A jeweler's tang file* is used for sharpening the blades and a flat stone is used for contouring the lateral surfaces. Periodic use of some form of magnification is recommended to enhance the sharpening procedure.

The periodontal file is held securely in the left hand (for right-handed operators) and the tang file is positioned so that its serrated undersurface is in contact with the upper surface of the blade to be sharpened (Figure 5). As previously mentioned, the cutting edges of most files are at either a 90° or 105° angle to the base. In order to preserve this angulation as long as possible, only the upper surface of each blade is sharpened (Figure 6). Using light but firm pressure and maintaining the correct angulation, the tang file is moved back and forth across the blade, reducing the entire surface evenly. Care is taken to maintain equal pressure and to avoid rotation of the tang file. This procedure is repeated for all blades and the instrument tested for sharpness using light reflection. The lateral surfaces are contoured using a flat sharpening stone to remove any pointed or jagged edges (Figure 7).

The tang file is carefully cleaned after each use, preferably in an ultrasonic cleaning device, to remove any tiny metal particles which may have become embedded during sharpening. It is then sterilized along with other instruments. The wearing away of the serrated edges of the tang file through use will necessitate its occasional replacement.

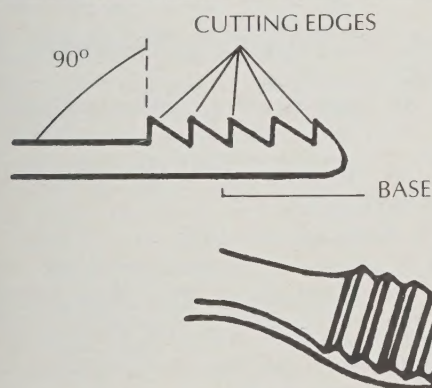


FIGURE 2: Characteristics of periodontal file.

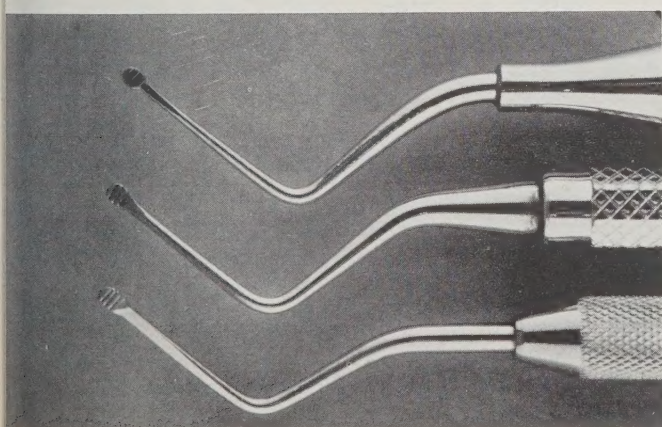


FIGURE 3: Files with recommended characteristics.

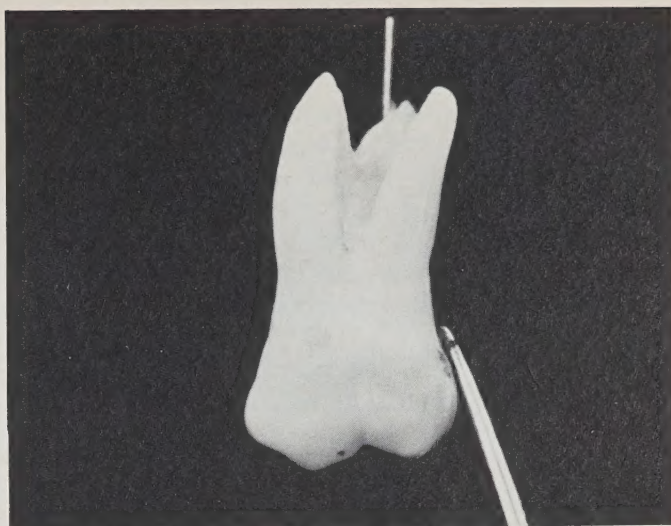


FIGURE 4: Positioning of file on distal surface of maxillary second molar.

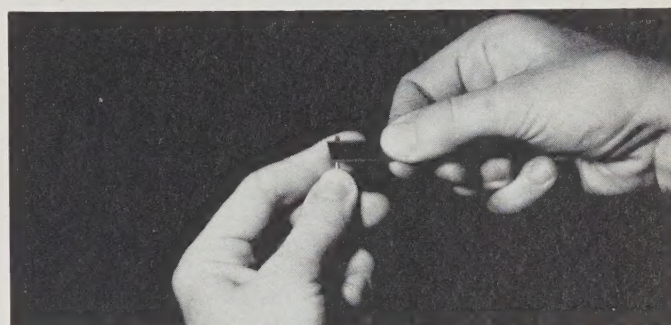


FIGURE 5: Tang file in position for sharpening.

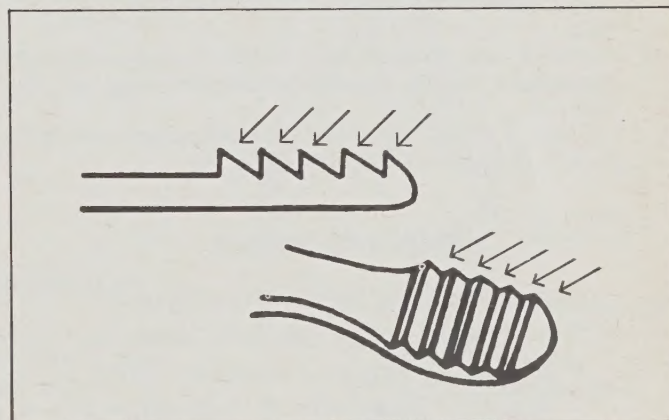


FIGURE 6: Surfaces to be sharpened.

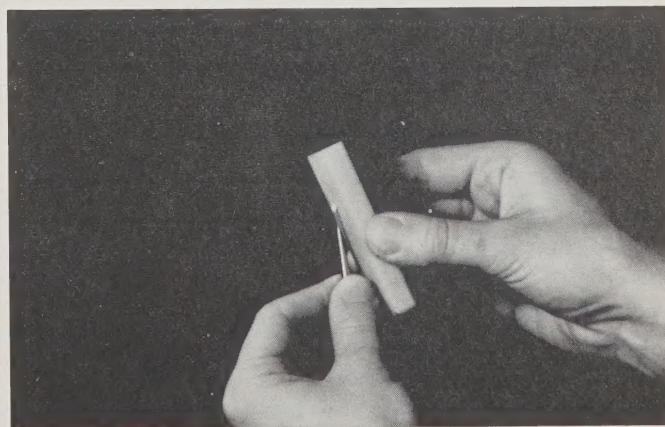


FIGURE 7: Contouring of lateral surfaces.

CONCLUSION

A large number of different instruments and devices are available for the smoothing of tooth surfaces. Perhaps the least commonly used one at the present time is the periodontal file. However, its ease of insertion with minimal tissue displacement, adaptability in limited access areas and effectiveness as a working instrument make it a valuable adjunct in conservative periodontal therapy.

*Tang files are available from many dental supply distributors and manufacturing companies.

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L'HYGIENISTE DENTAIRE DU CANADA
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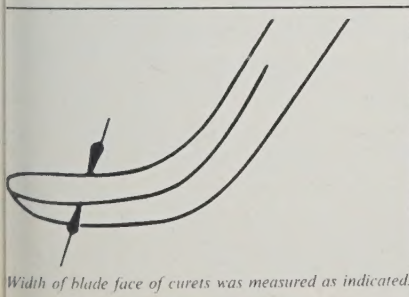
ABSTRACTS

FURCATION MORPHOLOGY AND PERIODONTAL TREATMENT

The literature contains no report of investigations dealing with the diameter of the furcation entrance and its significance in relation to prognosis or treatment of periodontal disease. This study was undertaken to investigate whether furcation morphology of first molars may influence instrumentation when retentage is performed.

A random sample of 114 maxillary and 103 mandibular first molars was selected. After the teeth were cleaned, the mesiodistal width of each tooth was measured between the buccolingual endpoints of the cementoenamel junction of each surface. Measurement of the diameter of the furcation entrance was performed with use of a dissecting microscope. Separate measurements were recorded for each entrance - three for maxillary molars and two for mandibular molars. The width of the blade faces of 12 commonly used curets was measured with a caliper (Illustration).

In 81% of all the furcations, the entrance diameter was 1.0 mm or less, and in 58% it was 0.75 mm or less. Entrance diameters of 63% of the maxillary molars were 0.75 mm or less; in mandibular molars, the comparable percentage was 5%. The correlation between mesiodistal width at the cementoenamel junction and the diameter of the furcation entrance was extremely low. The width of the blade face (Illustration) of the instruments measured was from 0.75 mm to 1.10 mm (Table). Thus, in 58% of the furcations examined, the width of the blade face was larger than the diameter of the furcation entrance. Because of this disparity in size, curets, when used alone, may not be suitable for root preparation in this area as part of periodontal therapy. [Bower, Robert C. 39 *Colin*. West Perth. Western Australia 60005. Furcation morphology relative to periodontal treatment. *J. Periodontol* 50(1):23-27. 1979].



Curette Type	Man.	# of instruments measured	Mean width	Range
			mm	mm
Gracey Nos. 1-14	*	60	0.84	0.75-0.95
	†	140	0.80	0.70-0.90
	‡			
Columbia 13-14	§			
	*	20	0.88	0.75-1.00
	†	20	0.84	0.80-0.90
2R-2L	‡			
	§			
	*	20	0.99	0.95-1.05
4R-4L	†	20	1.01	0.95-1.05
	‡			
	§			
McCalls 13-14	*	20	1.06	1.00-1.10
	†	20	1.01	1.00-1.05
	‡			
17-18	§			
	*	20	1.06	1.00-1.10
	†	20	1.00	Nil
	‡			
	§			

*Hu-Friedy manufacturing Co. Inc., Chicago, Illinois, U.S.A.

†Star Dental Manufacturing Co., Conshohocken, Pennsylvania, U.S.A.

‡American Dental Manufacturing Company, Missoula, Montana, U.S.A.

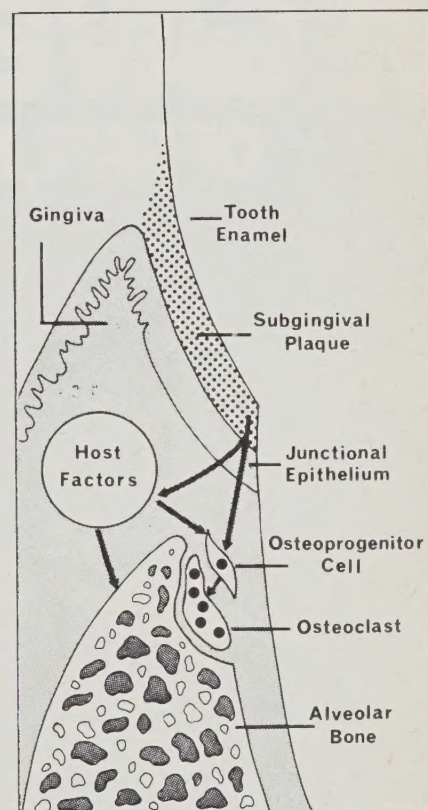
§Nordent Manufacturing Inc., Elk Grove Village, Illinois, U.S.A.

MECHANISMS OF BONE LOSS

The mechanisms by which tissue destruction occurs in caries and in periodontal disease are quite different although both are plaque-related. In caries, tissue damage occurs primarily by the direct action of plaque metabolic products on tooth structure. Plaque bacteria, however, do not generally invade the periodontal tissues. Damage appears to result mainly from the host response to the microorganisms of plaque.

Bone culture studies in conjunction with animal studies and observations of human periodontal disease, have uncovered several pathways by which alveolar bone can be destroyed in periodontal disease (see Illustration). Osteoclastic activity may be stimulated directly by bacterial factors such as endotoxin, or indirectly by activation of host defense mechanisms that also promote bone resorption.

The relative contribution of each pathway to alveolar bone loss is not known at present. The bacterial factors clearly can initiate a destructive response by directly stimulating bone resorption. The histological characteristics of developing gingivitis and periodontitis are consistent with an immune response. It must be remembered, however, that immune responses are primarily protective and that tissue damage might be much greater if these protective mechanisms were not present [Messer, Harold H. Division of Oral Biology, School of Dentistry, University of Minnesota, Minneapolis, 55455. Mechanisms of bone loss in periodontal disease. *Northwest Dent* 57:87-90 March-April 1978].



Possible pathways of alveolar bone destruction. Although plaque bacteria generally do not invade periodontal tissues, cell wall components may penetrate junctional epithelium and promote bone resorption by direct stimulation of osteoclastic activity or by activation of host defense mechanisms.

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- Formerly Associate Professor and Director, Department of Dental Hygiene, School of Dentistry, University of Washington.
- Author - "Clinical Practice of the Dental Hygienist" Lea & Febiger, Philadelphia, 1976.
- Friend to dental hygienists in Atlantic Canada.

Dr. Wilkins has conducted two continuing education courses with Atlantic Provinces dental hygienists. Through these experiences, dental hygienists have developed a high regard for what Dr. Wilkins has to offer the profession and truly appreciate her warm, friendly presentation. Dr. Wilkins will meet with dental hygiene participants on Monday morning to address topics of instrumentation; selective polishing and rationale for fluoride application related to instrumentation;

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- **Limited Attendance Seminars** - Take advantage of small group settings to share problems or information. The program committee is presently putting together four such seminars. Tentatively, they will include: 1. public health administration for the dental hygienist; 2) team practice in public health (3 & 4 to be announced).
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*Beiswanger, B.B., et al.: J. Dent. Child. 45:137, 1978.



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

SUMMER 1980 ETE

VOLUME 14, NO. 2

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$15.00 per year in Canada and \$22.50 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$15.00 par année au Canada et \$22.50 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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NEWS

OVER STORY*

The photograph on this issue's cover symbolizes the dichotomy between good oral health and the ravages of neglect, caries, and periodontal disease. It was appropriately titled, "For Better or For Worse".

The production is the result of the efforts of second year Dental Hygiene students, Kathy Starko, Diane Clouston and Kari Halvorsen from the University of Alberta. It was completed for their Dental Health Education course.

The mouth is constructed of bright cotton and fiberfill, a combination of machine and hand sewing. The caries and staining was achieved by staining with tea. "Much improvisation was necessary along the way", says Kathy, as the three dimensional pattern was produced from a two dimensional picture. Finally the bite was right "For Better or For Worse".

The "mouth" was displayed at the International Symposium in Vancouver, and was a great hit — especially with the Japanese dental hygienists.

Photograph courtesy of Mr. Ed McQuarrie and Mr. Mike Raven.



Barbara Zier and Bunny Gitzel, instructors at the University of Alberta, display their creative dental health ideas at the International Symposium in Vancouver.

CDHA SECRETARY TO PROVIDE NEWS FROM CDHA

The Canadian Dental Hygienist/Hygiéniste Dentaire du Canada welcomes the addition of the CDHA secretary, Cara Tax, as the CDHA Executive Journal Contributor for her term of office. Cara has agreed to provide us with an update of association intentions and undertakings on the provincial and

national levels. This will offer us a concise overview of CDHA happenings and will inform us about issues confronting our Executive Council and Board of Directors.

WHAT'S HAPPENING WITH . . .

- **ALBERTA BILL 30:** Bill 30, the Health Occupations Act, was not brought up for a second reading before the end of the 1979 session of the Alberta Legislature. Therefore, it has died on the Order Paper and must be reintroduced in the 1980 spring session.

- **STUDENT TABLE CLINIC DRAW:** CDHA is sponsoring a student table clinic draw this year for members of the association. A draw will determine the winning table clinic. Each School of Dental Hygiene is requested to submit one student table clinic to the CDHA Executive Council. All submissions will be entered in the draw and the winner notified.

- **INSURANCE:** Ron Berry, our Insurance Consultant, has recommended that CDHA endorse the Mutual of Omaha insurance plan. In accordance with CDHA By-Laws, the Executive Council has endorsed this recommendation as interim policy. This policy will be presented for ratification at the next session of the Board of Directors.

- **MEMBERSHIP WORKSHOP, APRIL 11 & 12:** The goal of this workshop was to develop a proposal for CDHA Membership Promotion for the purpose of attracting new members and retaining present members. This proposal will be presented to the CDHA Board of Directors at the 1980 Annual Session.

- **REPORT OF THE LONG RANGE PLANNING COMMITTEE RE: PORTABILITY OF THE DENTAL HYGIENIST:** The directive given to this committee at the 1979 Annual Session was to formulate a plan of action with regard to "portability" for Canadian dental hygienists, and to submit the plan to CDHA Executive Council. A task force on portability is to be appointed to study the situation and make recommendations regarding portability for dental hygienists across Canada. Initial inquiries have been made regarding members for this committee. Names of qualified persons willing to work on this committee would be welcomed.

- **UNEMPLOYMENT INSURANCE POLICY STATEMENT:** The policy statement concerning the Dental Hygienist and

Unemployment Insurance has received approval from the Board. Our Manpower and Utilization Chairman, Elaine Good, is continuing to communicate with the government regarding this issue. Mrs. Good also hopes to contact other groups or professions who are similarly affected by this legislation.

- **CONVENTION 1980:** Committee people are working extremely hard to make this a superb convention! Esther Wilkins has been confirmed as the main clinical speaker. The convention committee reports that publicity, budget, and social arrangements have been finalized and that they are anticipating a large attendance.



ESTHER WILKINS, B.Sc., R.D.H., D.M.D., Clinical Associate Professor, Department of Periodontology, Tufts University, School of Dental Medicine, Boston, Mass.

Dr. Wilkins is no stranger to hygienists in the Atlantic Provinces where she has presented two continuing education courses in the area over the past few years.

Many hygienists throughout Canada and the United States are familiar with Esther's text *Clinical Practice of the Dental Hygienist*, which is basic to most dental hygiene education in North America.

The C.D.H.A. Convention Committee feels extremely fortunate in being able to secure Esther's participation in the scientific program. Dr. Wilkins is very familiar with the needs of dental hygiene and has held various positions in the American Dental Hygienists' Association. As well, she is a member of the American Academy of Periodontology.



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As a result of several years of planning by the Education Committee of the British Columbia College of Dental Surgeons and the British Columbia Society of Orthodontists, dental auxiliaries in British Columbia have the opportunity to acquire knowledge and skills that will enable them to assume expanded functions in orthodontics. This opportunity is being provided in the form of a program of didactic and clinical instruction for certified dental assistants and registered dental hygienists, known as the "Orthodontic Module".

The College of Dental Surgeons of British Columbia passed the following guidelines for the Module in June 1978:

1. Course Length:

The course is to be 40 student/teacher contact hours in length (didactic and clinical instruction).

2. Course Format:

Theory is to be presented in lectures, seminars and self-study materials. Clinical application of theory and skills is to be practised during scheduled clinical sessions with a faculty/student ratio of 1:6 (ideal) and 1:8 (maximum) to be maintained.

3. Enrollment:

Dental auxiliaries enrolled in the course must be registered with the College of Dental Surgeons as certified dental assistants or dental hygienists. Enrollment will be limited and will be determined by need and the availability of faculty required to maintain adequate faculty/student ratios.

4. Faculty:

Faculty will consist of Certified Specialists in Orthodontics, preferably with teaching experience. In the future, dental auxiliaries certified in Orthodontics will be used to provide some of the instruction and to act as course co-ordinators. It will be the responsibility of the course instructors to insure that

participants are educationally qualified prior to recommendation for certification.

5. Evaluation:

Assignments completed during the course 50%
Final Examination 50%

A final grade of 70% will be required for satisfactory completion of the course and for recommendation to the College of Dental Surgeons for certification in Orthodontics.

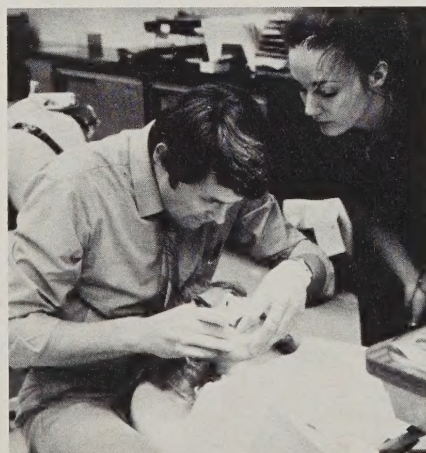
6. Certification of Students:

Students must successfully complete the Orthodontic Module prior to being eligible for certification by the College of Dental Surgeons of British Columbia. The names of those who successfully pass will be forwarded to the College of Dental Surgeons.

The following objectives were approved by the College. Upon the completion of the course, the participant should be able to:

A)

1. Discuss the aims and scope of orthodontics; explain orthodontic terms; classify malocclusions; discuss the etiology of malocclusion and explain the nature of preventive, interceptive, and corrective orthodontic therapy.
2. Describe basic orthodontic diagnostic procedures including history; oral examination and record taking (study models, panoramic, wrist and cephalometric radiographs); and facial and intra-oral photographs.
3. Describe preventive orthodontic treatment including space maintenance and caries control.
4. Describe interceptive orthodontic treatment including correction of crossbites; habit control (tongue and lip habits and thumb sucking); and serial extractions.
5. Describe corrective orthodontic treatment including active treatment and retention.



6. Discuss oral hygiene and disease control in orthodontics including patient education and motivation.
7. Discuss referrals of patients to the orthodontist and maintenance of the orthodontically treated patient in general practice.

B) Demonstrate competency in the performance of the following approved clinical duties in the practice of orthodontics:

1. Providing instruction in the placement and care of removable orthodontic appliances.
2. Tying-in of arch wires that have been prepared and fitted intraorally by a dentist or orthodontist.
3. Removing orthodontic arch wires.
4. Removing excess cement following cementation of orthodontic bands.
5. Fitting orthodontic bands prior to assessment by a dentist or orthodontist.
6. Taking impressions for the fabrication of orthodontic appliances.
7. Fitting space maintainers prior to assessment by a dentist or orthodontist.
8. Removing orthodontic bands.
9. Preparing teeth for direct bonding of attachments.
10. Applying wax or other material to offending components or removing offending components.

At present three courses are being sponsored by the Division of Continuing Dental Education at the University of British Columbia: September/October 1979; January/February 1980; and September/October 1980. Each course consists of eight three hour Saturday sessions. Enrollment is limited to 20 participants per course. The courses are being held in the Faculty of Dentistry, University of British Columbia and are being taught by: Dr. R.J. Markey, Dr. L. Metzner and Dr. H.G. Smith, all of whom are orthodontists in private practice and part-time instructors in the Department of Orthodontics, Faculty of Dentistry, at the University of British Columbia. Ms. Diane Reid, a certified dental assistant from the Department of Orthodontics, Faculty of Dentistry, University of British Columbia, is assisting in these courses.

The College of Dental Surgeons is concerned that the Orthodontic Module should be offered on a regional basis. Once the first courses have been implemented and assessed, it is hoped to offer the course in other geographic areas of the province of British Columbia.

Jane Wong
Program Co-ordinator
Continuing Dental Education
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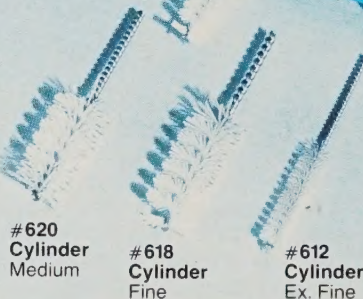
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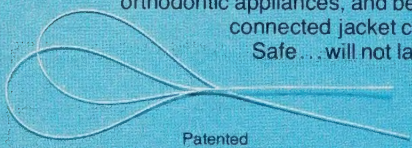
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REPORT OF THE LONG RANGE PLANNING COMMITTEE

SUBMITTED BY: Sherita Clark
Pat Johnson

DATE: December 1, 1979

DIRECTIVE: *To formulate a plan of action to effect "portability" for Canadian dental hygienists and to submit the plan to C.D.H.A. Executive Council.*

PREAMBLE: *At the 1979 Orientation Session prior to the C.D.H.A. Annual Session, participants developed a five-year goal for C.D.H.A.: "To ensure that Canadian dental hygienists who meet an established criteria for practice qualify for employment in all regions of Canada without further provincial examination."*

RECOMMENDATION: *That a Task Force on Portability be appointed to study and make recommendations regarding portability for dental hygienists in Canada.*

Criteria for selection of Task Force members:

- regional distribution (one person from 1. B.C. 2. Prairie Provinces 3. Maritimes 4. Ontario 5. Quebec)
- i. expertise in dental hygiene education
- ii. understanding of and familiarity with the regulation of dental hygiene practice
- iv. a definite interest in achieving the C.D.H.A. goal

TASK FORCE ON PORTABILITY

Terms of Reference

1. To study the various mechanisms which can be applied to achieve the goal of portability, for example, transferability, reciprocity, national dental hygiene examination, etc.
2. To compile resource materials on methods of portability in other jurisdictions, for example, U.S.A., Great Britain.
3. To determine the current regulations for registration and/or licensure for dental hygienists.
4. To recommend a specific method of portability to the Board of Directors of C.D.H.A.
5. To develop a specific strategy for the implementation of the selected mechanism.
6. To identify a national standard for the practice of dental hygiene against which graduates of dental hygiene programs can be evaluated

and to present this national standard of practice to the C.D.H.A. Board of Directors for approval.

7. To undertake and organize all measures necessary to implement the proposed mechanism for portability, if directed to do so by the Board of Directors.

Proposed Schedule

1. Appoint members to a Task Force on Portability.
2. Provide members of the Task Force with copies of the C.D.H.A. Five-Year Goal and the Terms of Reference.
3. Task Force submits reports with recommendations regarding an appropriate mechanism for portability.
4. C.D.H.A. Board of Directors vote on proposal at 1980 Annual Session.
5. Task Force develops a Canadian standard of practice for dental hygiene.
6. Task Force develops the strategy for implementing the mechanism for portability.
7. Submit final proposal to C.D.H.A. Board of Directors for approval.

The CDHA/ACHD invites qualified personnel to participate on this Task Force. Please submit names to:

Cara Tax
CDHA Secretary
B - 652 Cavalier Drive
Winnipeg, Manitoba
R2Y 1C1

CORRECTION

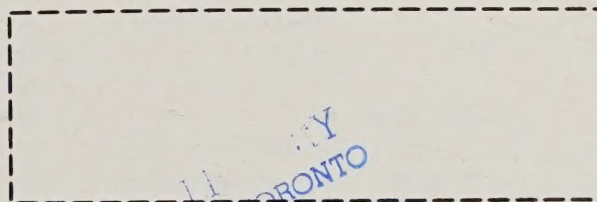
On page 84 in the Winter 1979 issue, it was stated that the 8th International Symposium on Dental Hygiene will be held in England in July of 1980. The correct date of the next Symposium is July 27-31, **1981**, and the location will be Brighton, England.

ANSWERS TO SELF-ASSESSMENT TEST

1. a 2. b 3. a 4. c
5. b 6. d 7. d 8. c
9. d 10. d

WAS THIS JOURNAL CORRECTLY ADDRESSED?

Every copy of the journal returned to us costs the Canadian Dental Hygienists' Association approximately fifty cents. If you are moving permanently, please let us know two months before changing your address. If the address label on this publication is not correct, please clip it, then paste it in the blank provided and mail this entire coupon to us, including your new address! Thank you. (Any returned journals marked "moved" or "address unknown" will not be remailed until the member submits a change of name and/or address.)



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THE C.D.H.A. NATIONAL CONVENTION

Clinical/Social Program

July 13, 14, 15, 16, 1980

Fri., July 11		Holiday Inn	— C.D.H.A. Executive & Delegate Workshop
Sat., July 12	9:00-5:00	Holiday Inn	— Annual C.D.H.A. Board of Directors Meeting (all members welcome as observers)
Sun., July 13	9:00-1:00		
Sun., July 13	11:00-6:00	Holiday Inn	— Registration
	7:30-11:00	Hotel Nova Scotian	— Opening Night Ceremonies & Chowder Party
Mon., July 14	9:00-12:00	Sir Charles Tupper Medical Building Theatre B	— PERIO UPDATE Dr. Esther Wilkins , B.Sc., R.D.H., D.M.D. Instrumentation; Selective Polishing; Fluoride application re: instrumentation
	12:00-2:00	Chateau Halifax	— President's Lunch <i>refer to dental program*</i>
	2:00-5:00	Student Lounge, Dalhousie Arts Centre	— Dental and Dental Hygiene Student Table Clinics
	2:00-5:00	Student Lounge, Dalhousie Arts Centre	
	7:00-1:00	Halifax Metro Centre	— Lobster Party
Tue., July 15	9:00-10:00		— Dental Hygiene Workshops** (<i>All workshops in Sir Charles Tupper Medical Building</i>)
		Seminar Room 2A	1. INSTRUMENT SHARPENING: Marilyn Kinnear , R.D.H., practising hygienist in perio practice in Halifax. Nancy Awalt , R.D.H., practising hygienist in general practice in Halifax.
		Seminar Room 2B	2. THE PUBLIC HEALTH TEAM IN NEW BRUNSWICK Mary Pelletier , R.D.H., Senior Dental Hygienist, New Brunswick Department of Health Staff - other members of the Public Health Team in New Brunswick
		Seminar Room 3	3. THE ROLE OF THE DENTAL HYGIENIST IN PUBLIC HEALTH PROGRAM ADMINISTRATION Suzanne Sheaves , R.D.H., B.A. (M.B.A in progress) consultant in Dental Hygiene for Nova Scotia Public Health Department
		Seminar Room 4	4. DRUGS AND THE ELDERLY Dr. Jack Sommers , Director of Health Services, Northwood Centre, Halifax <i>refer to dental program</i>
	10:00-12:00		
	12:15-2:00	Hotel Nova Scotian	— Lunch Hosted by the Province of Nova Scotia
	2:00-5:00	Cohn Auditorium	— MANAGEMENT OF THE PATIENT WITH PERIODONTAL DISEASE IN PRIVATE PRACTICE Dr. Esther Wilkins , B.Sc., R.D.H., D.M.D.
	6:00-8:00	Citadel Inn	— C.D.H.A. President's Reception (all members invited) <i>refer to dental program</i>
Wed., July 16	9:00-12:00		
	12:00-2:00	Dalhousie Arts Centre	— Lunch - Beef 'n Beer

* Participants are welcome to attend any sessions on the C.D.A. Scientific Program.

** The workshops will have a limited attendance. Sign up right away so you won't be disappointed. Don't forget to include on your workshop application questions or areas you wish the speaker to address. These workshops are designed for your needs - we encourage your assistance in their planning as well as your participation in July.



The Canadian Dental Hygienists' Association L'association Canadienne des Hygienistes Dentaires



Members of the Convention Committee are at work putting the finishing touches on July's events. Seated left to right are: Diane Forrest, Publicity; Kim McGrail, Chairperson; Linda Zambolin, Scientific Program; and standing is Lisa MacDonald, Hospitality. Missing from the picture are: Terry Mitchell, Registration Liason; and Sue Penwell, Social Convenor.

Dear Friends:

Greetings from sunny Nova Scotia! Summertime is here, the lobsters are plentiful, the beaches alive, and the living is easy. I hope you are enjoying the season as we near the halfway point in our summer.

As July approaches, we anticipate with excitement welcoming you all to Canada's Ocean Playground to attend our C.D.H.A. National Convention.

This is just a friendly reminder from your C.D.H.A. 1980 Convention Committee that July is prime vacation time in our scenic province. It is our hope that if you yearn for some easy living, some "caught that day" seafood, the opportunity to explore quaint fishing coves and rugged green highlands, to sail on the Bluenose II, to enjoy original handcrafts, and take advantage of our unique hospitality, that you will combine your vacation with the opportunity to attend our C.D.H.A. National Convention in Halifax, July 13th - 16th.

Come see our corner of Canada and "Learn and Relax in Halifax"!

Kim McGrail

Kim McGrail
C.D.H.A. Chairperson
Convention 1980

Halifax, Nova Scotia, Canada
13-16 July 1980

**National
Convention**

**Congrès
National**



Learn and Relax in Halifax

BRIEF PRESENTED BY THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION TO THE HEALTH SERVICES REVIEW COMMISSION

The following has been excerpted from the original CDHA Brief which was delivered to the Chairman of the Health Services Review Commission in Halifax on April 8, 1980.



CDHA President, Diane Girardin (far left) presented this brief to Mr. Justice Emmett Hall's inquiry into the Canadian health care system. Diane was accompanied by 1st Vice President, Pat Grant (far right) and Kate MacDonald, our representative to the CDA Council on Health Care.

SUMMARY

Recent advances in dental research and a growing awareness of the necessity for the prevention of dental disease have placed increased demands on the dental health professions in the delivery of dental services to Canadians. There are still many Canadians, however, whose dental health needs remain unmet.

Optimum dental auxiliary utilization can have far reaching implications for better dental health for Canadians. With delegation of additional functions to qualified auxiliaries, the dentist's responsibility will shift from performer of tasks to delegator and evaluator of tasks.

Dental hygienists rightfully see themselves as well educated specialists in an important health field. They recognize the need for continuing education and expansion of their role in the delivery of health care.

RECOMMENDATIONS

Studies have not demonstrated as yet what the most efficient dental care delivery system should entail, particularly in the private sector. An efficient reorganization of the dental care deliv-

ery system would encourage the increased utilization of auxiliaries and would result in a reduction of costs for services. These savings *could* be passed on to the consumer (patient).

CDHA therefore recommends that **Further research be conducted concerning dental care delivery systems in Canada.**

The reluctance of dentists to accept other dental health personnel in a significantly expanded role raises the question of the propriety of dental auxiliary groups being regulated by dentists, who have an economic interest in restricting auxiliary roles. Only in Quebec is there presently a separation of regulation of dental hygiene from dental association control. The CDHA recommends that

The regulation of dental hygienists, including definition of functions, licensing and discipline be vested in bodies other than dental associations. Such bodies should include the dental hygienists, representatives of the public, and dentists, but dentists should not be in a majority position.

Because the restrictions presently existing in most provinces regarding supervision are inconsistent with the training, function and abilities of dental

hygienists, the CDHA recommends that **Where it exists, the requirement for direct supervision of hygienists be eliminated.**

The CDHA also recommends that **The Federal Government develop practice standards for all dental health personnel, starting with dental hygienists, and develop quality assurance programs for all dental health care delivery systems.**

CDHA further recommends that **Quality assurance programs be applied in every setting where the public receives dental health services, whether these settings are in the public or the private sector.**

In many instances, hygienists and consumers are exploited economically by the requirement that hygienists in the private sector must be employed by dentists. The CDHA recommends that

As practice standards and quality assurance programs for dental hygiene are developed, the possibility of dental hygienists establishing independent practices conforming to such standards be investigated.

Dental hygiene as an emerging professional group represents the potential of preventing much of the dental disease experienced by Canadians and

providing interceptive or therapeutic treatment of a limited nature at costs significantly below the same services provided by dentists.

The rate of establishment of dental hygiene and other dental auxiliary programs in recent years has depleted the supply of qualified dental auxiliary educators. At present, there is only one program preparing English speaking dental auxiliary educators and one French. At the same time, the contribution of dental hygienists in public health and institutional settings has been severely curtailed by the lack of programs beyond the diploma level. The CDHA recommends that

Baccalaureate programs designed to prepare dental auxiliary educators and public health hygienists be established in at least three additional university-based dental hygiene programs.

Most provinces currently recognize restorative dentistry functions of a limited nature provided by suitably trained hygienists. These functions usually do not include the administration of local anaesthetic and cavity preparation. There exists a small body of dental health workers whose skills combine those of the dental nurse (including local anaesthetic and cavity preparation) and the dental hygienist. These persons and their employers report the high degree of compatibility of these previously separated roles. The CDHA recommends that

Additional training be provided for dental hygienists, dental therapists, and dental nurses which will provide them with the skills of all three groups.

The flexibility of such a system would optimize the use of trained manpower, increase inter-provincial mobility and provide greater career satisfaction for the auxiliaries.

The refusal of CDA to recognize, in its accreditation role, non-traditional dental hygiene and dental assisting functions and programs such as dental nursing and dental therapy severely limits the value of the present accreditation system. In view of this and in recognition of the emerging professional status of the group concerned, the CDHA recommends that

Conjoint accreditation committees be established for dental auxiliary groups. For dental hygiene, for example, this conjoint committee should have representation from the new regulating bodies for dental hygiene, dental hygiene educators, the public and dentistry. There should not be, as exists at present, a majority of dentists on the accreditation body.

CDHA further recommends that

The Federal Government develop guidelines for accreditation standards and procedures for all formal educational programs for health personnel in Canada.

At present, dental services are priced beyond the reach of many Canadians. Even where insurance or government-financed programs are available, fee for service costs are based on the assumption that the dentist will be the provider. This ignores the potential savings of having many services provided by dental hygienists or other auxiliaries. If an auxiliary is actually providing the service, the insurer is paying too much. If the service is provided by a dentist, the insurer is subsidizing the perpetuation of inefficient dental practice. The CDHA recommends that

Government and other third party payment schemes pay fees for service based on the service being provided at the lowest unit cost compatible with defined standards.

CDHA recommends that

Provincial and Federal governments encourage the establishment of alternate systems of dental health care to meet dental needs of Canadians that are currently unmet.

Two such existing examples are the Children's Dental Health Programs in Saskatchewan and Manitoba. Another potential program would be employment of dental hygienists by municipal and provincial governments to improve dental health care for seniors in our population, in residential centres, home care services, and other settings.

Some dental organizations have expressed the concern that there are now "too many dental hygienists". This is true only if it is linked to the willingness of dentists to employ auxiliaries. It is not true if related to the dental health needs of Canadians and the potential of dental hygienists to help meet those needs.

The Federal Government is in a unique position to foster many desirable changes and innovations in the area of dental health for Canadians. The CDHA recommends that

The Federal Government mount a national program promoting prevention of dental diseases including incentives for community water fluoridation and dental health education.

Such a prevention-oriented approach is compatible with the Federal Government's concern for improved health practices and lifestyle education.

Billions of dollars are spent annually on a personal health care system which treats existing illnesses. The 1974 Lalonde report proposed five strategies to assist in improving the health of Canadians. The first strategy listed was health promotion aimed at informing, influencing and assisting individuals and organizations to accept more responsibility for their own mental and physical health. The dental hygienist as a clinician and dental health educator is capable, through education and training, of promoting the health and well being of Canadians. As a health promo-

ter this dental auxiliary can do much within the community to change attitudes and behaviors toward health.

The role of the dental hygienist in the community is multi-dimensional. As well as providing comprehensive preventive treatment, the hygienist can function competently as a community dental health worker, administrator, researcher, community educator and as a resource person.

As a clinician in a community dental health program, a more active clinical role would permit the delivery of specified dental services at a reduced cost to the community. The expansion of duties to train and educate a dental hygienist/Saskatchewan dental nurse would provide clinical, preventive and promotive services in the community.

The role of the dental hygienist in public health needs to be enhanced. While regional and local needs must be considered, some provinces do not see a place for a hygienist as a dental health promoter in their dental public health programs. Some employ hygienists but do not fully utilize them. A fuller career structure should be developed for public health hygienists to include expanded duties in consultative, supervisory, and administrative fields, as well as in clinical areas. Baccalaureate and Masters Degree programs in educational administration, public health and community health education would provide the needed expertise.

The hospital is an important environment in which the dental hygienist should function. The hygienist may promote the restoration, achievement, and maintenance of oral health by providing a practical and effective preventive dental program. This program may be directed to staff and students in the health sciences, in-and-out-patients, parents and relatives.

Dental health education programs and preventive services provided by the hygienist can be conducted effectively in senior citizens homes, personal care homes, centres for the physically and mentally handicapped and veterans hospitals. CDHA recommends that

The dental hygienists' role in the community should be expanded. Hygienists are underutilized in the traditional public health role and have not been given opportunities to use their skills in other areas of the community. These include hospitals, personal care homes, senior citizens centres, veterans hospitals, and centres for the mentally and physically handicapped. To ensure health promotion and to provide preventive and educational services within all aspects of the community, dental hygienists' functions should be expanded and opportunities of employment provided in the locations cited above.

SELF-ASSESSMENT TEST

The 1980 series of Self-Assessment Tests are being provided by dental hygiene educators at the University of Alberta, Edmonton, Alberta. The second test reviews Medical Emergencies.

When you have completed the test, turn to page 31 for the correct answers.

1. A forty year old man is in your operatory when suddenly he feels pain in his chest. The pain radiates to his arm, shoulder and neck. The patient is short of breath and apprehensive. You should suspect:
 - a) heart attack.
 - b) cerebral vascular accident.
 - c) angina pectoris.
 - d) epilepsy.
2. Your patients' blood pressure is 124/66. The number '66' represents the:
 - a) pressure exerted by the contraction of the heart.
 - b) pressure during relaxation of the heart.
 - c) pressure exerted by the blood against the walls of the veins.
 - d) none of the above.
3. Rapid, repetitive recurrence of any type of epileptic seizure without recovery between attacks is known as:
 - a) status epilepticus.
 - b) grand mal seizure.
 - c) petit mal seizure.
 - d) generalized seizure.
4. While taking the medical history, your patient confirms he suffers from pedal edema. With this history and observation, you should suspect:
 - a) heart attack.
 - b) cerebral vascular accident.
 - c) congestive heart failure.
 - d) angina pectoris.
5. Dyspnea means:
 - a) asphyxia.
 - b) difficult or labored breathing.
 - c) a lack of oxygen in the expired air.
 - d) a lack of oxygen in the inspired air.
6. An insufficiency of insulin is known as:
 - a) insulin coma.
 - b) insulin shock.
 - c) diabetic shock.
 - d) diabetic coma.
7. Which of the following signs and symptoms is NOT characteristic of the metabolic disorder in question 6?
 - a) deep, rapid breathing
 - b) a state of confusion, disorientation and stupor
 - c) sickly sweet breath
 - d) cold, clammy skin and profuse perspiration.
8. The average pulse rate in an adult is:
 - a) 12-16 beats per minute.
 - b) 20-24 beats per minute.
 - c) 60-80 beats per minute.
 - d) 80-100 beats per minute.
9. Which of the following pairs of symptoms best characterizes a cerebral vascular accident?
 - a) normal pupils, no paralysis.
 - b) normal pupils, paralysis of one side of the body.
 - c) unequal pupils, no paralysis.
 - d) unequal pupils, paralysis of one side of the body.
10. What will comprise adequate preparation by the dental office staff in the management of life threatening emergencies?
 - a) team approach to manage emergencies.
 - b) training of all office staff in basic first-aid and C.P.R. to manage emergencies.
 - c) emergency 'fire drills'.
 - d) all of the above.

Suggested References:

Malamed, S.F. *Handbook of Medical Emergencies in the Dental Office*. Saint Louis: Mosbey, 1978.
Medical and Environmental Emergencies. Washington, D.C.; Robert T. Brady Company, 1971.

Constance R. Melancon, R.D.H., B.A.
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 University of Alberta

TESTING FOR ASCORBIC ACID STATUS: Lingual Vitamin C Test

Nina E. Burgess, B.Sc., M.Ed.

Mrs. Burgess is a nutritionist with the Department
of Preventive Dentistry, University of Toronto.

Vitamin C has long been known to be an essential nutrient in the synthesis of collagen fibres found in the periodontal ligament and bone elsewhere in the body. It is clear that a severe deficiency of this vitamin (classical scurvy) is accompanied by alterations in the periodontium. Thus, when dentists or dental hygienists see diseased periodontal tissues they may suspect a low intake of vitamin C as a possible contributing factor to the condition. These concerns on the part of dental personnel have been heightened by some recent claims by E. Cheraskin and others that many periodontal patients may be suffering from borderline vitamin C deficiency. It would be useful if the dental practitioner had available to him a simple method for determining the vitamin C status of the patient.

Clinical signs of vitamin C deficiency are not observed until tissues become depleted of this vitamin. Since measurement of tissue vitamin C level is difficult, this is normally estimated by analysis of serum level or by urinary clearance rate of vitamin C after challenge doses of the vitamin. More recently, it has been suggested that the lingual ascorbic acid test can provide an accurate estimate of the tissue levels of vitamin C. The technique of using the tongue as an indicator of ascorbic acid status was first described by Giza and Weclawowicz¹. In 1962, Ringsdorf and Cheraskin² reported good correlation with plasma levels of ascorbic acid by the use of a rapid and simple lingual ascorbic acid test using a drop of 0.06 per

cent solution of dischlorophenolindophenol on the dried surface of the tongue. If the colour of the drop of dye disappeared in less than 20 seconds, the indication was that the tissue was well supplied with vitamin C. If the disappearance time was 25 seconds or longer, this indicated that the tissue was deficient in vitamin C. Tasch and Simon³ outlined the steps in the technique noting that a Pro "C" kit* with instructions was available enabling the dental auxiliary to readily perform the test in the dental office.

While Cheraskin and Ringsdorf^{5, 6, 7, 8} have reported extensively on the validity of the results of the lingual vitamin C test, other investigators have been unable to duplicate their results and have even questioned its specificity for ascorbic acid. King and Little⁹ found that surface debris (containing oral microflora) changed the rate of discolorization of the dye. Their clinical tests showed a great deal of variation in dye discoloration depending on the concentration and amount of the dye solution. If the patient exhibited a coating on the tongue, the discolorization rate was accelerated probably due to other agents in the tissues that served as reducing agents in addition to ascorbic acid. They concluded that the test was not specific for ascorbic acid and would have little or no value when used in an attempt to answer the

* Pro "C" Kit, Preventive Dental Systems, Inc., P.O. Box 2205, Silver Springs, Maryland 20902.

question of whether a given patient had a mild deficiency of tissue ascorbic acid. Little and Owsley¹⁰ suggested that filiform papillae and coating of the tongue prolonged the time of the test. They were unable to distinguish between a group of dental students given a vitamin C supplement and a control group that had not received the vitamin with the lingual test.

The correlations between the concentrations of ascorbic acid in the parotid saliva, plasma, and white blood cells were studied by Bates et al¹¹. They concluded that neither the lingual ascorbic acid test nor the calculation of the ascorbic acid level in the parotid saliva provided a useful index to accurately assess the overall ascorbic acid status in man. Randolph et al¹² reported the results of experiments designed to measure tissue levels of ascorbic acid and to compare lingual ascorbic acid test results with the established tissue level. Following the administration of 150 lingual tests by each of two independent operators, they concluded that there was no correlation between lingual times and serum ascorbic acid concentrations. They further concluded that the lingual ascorbic acid test did not measure tissue ascorbic acid status.

Bright and Shannon¹³ administered the lingual vitamin C tests to dental students receiving vitamin C supplementation in their diets and compared urine and lingual tests. Lingual vitamin C tests were also studied in relation to antecedent daily dietary ascorbic acid intakes of 185 school-age children. In these studies, no indication of the interrelationship between ascorbic acid intake and lingual test time was reported. Inouye et al¹⁴ evaluated the lingual ascorbic acid test as a measurement of the ascorbic acid tissue levels in guinea pigs. They found little correlation with ascorbic acid levels in either blood or tissues and concluded that the test could not justifiably be used to screen populations or to determine individual ascorbic acid status.

Although Cheraskin and Ringsdorf have widely disseminated their findings through articles in many professional journals, other investigators have met little success in attempting to duplicate their results. We can only conclude that the lingual ascorbic acid test has not been authenticated as a valid test of ascorbic acid status. Under these conditions, this method of testing cannot be recommended to dentists or dental hygienists as a vitamin C status test for individual patients in the office.

The Nutrition Canada survey¹⁵ completed in 1973 reported that dietary intakes of vitamin C were adequate for all groups in the Canadian population. According to their serum vitamin C levels, a significant proportion of elderly people (particularly male) were at high risk of developing

vitamin C deficiency. Thus, vitamin C deficiency is not likely to be a contributing factor in the majority of periodontal disease cases, but should be a consideration in elderly patients. There may be some reason to suspect a vitamin C deficiency in those cases which fail to respond to normal periodontal therapy¹⁶. In such cases, there would seem to be three alternatives:

1. to evaluate the dietary vitamin C intake of the patient
2. to determine whether the patient responds favourably to vitamin C supplementation
3. to refer the patient to a medical laboratory for serum vitamin C analysis

References

1. Giza, T. and Weclawowicz, J.: Perlingual method for evaluating the vitamin C content of the body. A rapid diagnostic test for vitamin C undernutrition. *Internationale Zeitschrift für Vitaminforschung*. **30**: 327-332, 1960.
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3. Tasch, G.E. and Simon, W.J.: Vitamin C Test. *The Dental Assistant*. May 1973.
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11. Bates, J.F., Hughes, R.E. and Hurley, R.J.: Ascorbic Acid Status in Man: Measurements of Salivary, Plasma and White Blood Cell Concentration. *Arch. Oral Biol.* **17**: 1017-1020, 1972.
12. Randolph, P., Wilson, T.J., Roth, G.D. and Young, G.R.: Evaluation of the Lingual Ascorbic Acid Test. *J. Oral Med.* **29**(1): 1974.
13. Bright, D.R. and Shannon, I.L.: Performance of the Lingual Ascorbic Acid Test. *J. Dent. Assoc. S. Afr.* **29**: 17-20, 1974.
14. Inouye, L., Miller, S.A., Alfano, M.C.: Lingual Ascorbic Acid Test: Poor Correlation with Blood and Tissue Levels of Ascorbic Acid in Guinea Pigs. *J. Dent. Res.* **54**(6): 1180-2, 1975.
15. Nutrition Canada Survey. Dept. of Health and Welfare, Ottawa, Canada, 1973.
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QUELQUES HABILITÉS DE COMMUNICATION APPLIQUÉES À LA RELATION HYGIÉNISTE DENTAIRE-PATIENT

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La communication établie entre l'hygiéniste dentaire et son patient dans le cadre d'une relation thérapeutique dentaire constituerait une partie intégrante des soins dentaires aussi importante que les traitements cliniques proprement dits. En effet, c'est par une communication saine que l'hygiéniste dentaire pourra transmettre à son patient des attitudes positives face à la dentisterie, attitudes qui pourraient modifier favorablement le comportement de ce dernier en tant que consommateur de soins. French¹ souligne d'ailleurs la demande croissante perçue chez les patients à l'effet d'entretenir des relations plus satisfaisantes avec le dentiste et ses auxiliaires. En tant que personne humaine, les patients rechercheraient une communication franche et ouverte avec le personnel dentaire.

Cependant, à cause de leur complexité, les multiples aspects de la communication peuvent rebuter certains hygiénistes dentaires; la diversité des situations rencontrées peut les désorienter. C'est pour offrir aux hygiénistes dentaires un support rassurant et stimulant à leur rôle d'éducateur, que nous proposons un programme d'habiletés de communication qui pourraient répondre à leurs besoins en se rapportant spécifiquement au contexte de l'entrevue dentaire. Pour ce faire, nous avons cherché à appliquer les principes

du microcounseling² qui, par une approche structurée des habiletés liées à l'entrevue, pourrait améliorer les comportements des hygiénistes dentaires à communiquer harmonieusement avec leurs patients.

Impact de la communication en dentisterie

Dupuis la découverte de l'action de la plaque dentaire, mince film de microorganismes pathogènes, dans l'initiation et la progression des maladies dentaires et périodontales, l'orientation de la dentisterie s'est largement modifiée pour faire place à la prévention. Comme le contrôle de cette plaque serait le moyen par excellence pour prévenir la plupart de ces affections buccales³, la prévention serait axée principalement, dans le cadre d'une pratique dentaire privée, sur l'éducation du patient, en relation directe, face-à-face⁴.

Cette approche impliquerait, en tout premier lieu, une communication réciproque⁵ entre l'hygiéniste dentaire et son patient. En effet, après avoir consulté une certaine de références sur ce sujet, Shulman⁶ rapporte que la première étape à franchir en vue de la motivation du patient vers des habitudes d'hygiène satisfaisantes serait l'amorce de la communication: "Though there is no standardized procedure for long

term oral hygiene, motivation, present knowledge does suggest that the approach which should be used today could be first, the establishment of communication".

Pour être efficace, cette communication devrait s'établir dans une relation interpersonnelle chaleureuse susceptible d'induire chez le patient, un changement positif de comportement orienté vers de saines habitudes d'hygiène⁷.

Il semble donc qu'une communication facilitante pourrait influencer favorablement l'attitude générale du patient envers la prévention dentaire. En conséquence, elle pourrait modifier positivement le déroulement des services offerts⁸ et pourrait même avoir un impact important sur la réussite de certains traitements⁹ et en particulier sur la prévention.

Or le contexte dentaire susciterait un état de malaise chez certains patients pour plusieurs raisons. La nature des services offerts entraînerait une proximité physique assez étroite entre deux personnes qui, par ailleurs, peuvent être étrangères l'une de l'autre. A cet effet, Baseheart¹⁰ soutient que le contact dentiste-patient ou hygiéniste-patient pourrait déclencher une réaction défensive à l'invasion de l'espace vital privé que chaque personne délimiterait autour d'elle.

De plus, Weckstein¹¹ souligne que la cavité buccale représenterait pour certains, une région lourde d'émotivité à cause du rôle qu'elle aurait joué, durant la première enfance dans le développement de la personne. Une atteinte à l'intégrité de cette aire privilégiée pourrait amener certains patients à afficher des comportements défensifs inexplicable d'un point de vue strictement physiologique. A cette "agression" s'ajoute l'anxiété¹² qui se manifesterait de façon plus ou moins vive en tant que mode normal de réponse à un stress comme entre autres la douleur et le coût des soins.

Pour toutes ces raisons, on cherchera à établir une communication amicale avec le patient afin de le sécuriser, de le mettre en confiance, de l'éduquer en matière d'hygiène dentaire et finalement de le faire participer aux traitements.

Pour établir une communication profonde avec son patient, il convient de situer les soins dentaires et la prévention dentaire par rapport à ses besoins réels. A ce propos, la région buccale occuperait une place importante au niveau de l'esthétique, de la phonétique et de la mastication. Elle influencerait de ce fait la santé générale du corps humain d'une part et certains besoins psychologiques tels l'estime de soi et d'autrui, d'autre part. Conséquemment, l'aide que peut apporter le personnel dentaire, tout en focalisant son action sur la cavité buccale s'étendra indirectement à d'autres aspects de la personne humaine. En effet, on ne saurait nier l'impact des facteurs psychologiques en dentisterie. L'hygiéniste pourrait être confronté dans certains cas à des problèmes qui auraient leurs racines profondes dans le tissu complexe de la personnalité humaine et auxquels une réponse uniquement biologique ne suffirait pas. Une évaluation des besoins réels du patient par l'établissement d'une communication saine pourrait contribuer à l'amorce de la correction d'une fonction physiologique qui pourrait avoir des répercussions au niveau de certains besoins psychologiques fondamentaux.

Les habiletés

Etant donné l'impact que pourrait avoir la relation hygiéniste dentaire-patient sur le comportement de ce dernier et sur le déroulement des traitements dentaires, nous désirons suggérer des éléments de solution aux problèmes inhérents à la communication, problèmes qui peuvent survenir en bureau privé. A partir du microcounseling², lequel propose un cadre d'expérimentation systématique des habiletés facilitant la communication interpersonnelle, nous avons adapté quatre (4) habiletés de com-

munication représentatives de la conduite d'une entrevue soient l'attention, les questions, la paraphrase et le résumé; habiletés qui seraient susceptibles d'améliorer la qualité des échanges verbaux et non-verbaux qui pourraient s'établir entre l'hygiéniste et son patient. Nous notons toutefois que, même si ces habiletés couvrent des aspects importants d'une communication, elles ne rendent pas compte de la totalité des comportements manifestés par un aidant efficace dans une relation d'aide épanouissante. Pour la compréhension de cet article, nous définissons l'habileté comme étant un ensemble de comportements manifestes se rapportant à un savoir-faire particulier.

A) Attention

L'attention rejoindrait plusieurs dimensions du counseling comme l'empathie, le respect chaleureux et l'authenticité. En effet, l'hygiéniste concentre toute son attention sur son patient afin de lui transmettre son désir de le comprendre, d'être avec lui présentement et authentiquement en le respectant comme une personne humaine. Plus spécifiquement, en manifestant un état réceptif au message de son patient, l'hygiéniste dentaire transmet un intérêt réel envers ce dernier, ce qui pourrait le predisposer à s'exprimer davantage et à clarifier les données de son problème.

L'attention suggère quelques comportements qui peuvent s'avérer utiles tout au long de l'entrevue. Durant certaines périodes de flottements ou d'hésitations, les composantes de l'attention soient le contact avec les yeux, la posture détendue et la répétition des dernières paroles de l'aidé, seraient suffisantes, dans bien des cas², pour assurer une continuité satisfaisante à l'entrevue.

Etudions ces composantes de plus près. En regardant son patient dans les yeux, on maintient un contact avec lui. Il suffit de converser avec un interlocuteur au regard fuyant pour se convaincre de l'importance de cette première approche. C'est par un contact visuel qu'on pourra manifester au patient notre désir d'entrer en communication avec lui. Par exemple, il faudrait, dans la mesure de possible, éviter de parler à son patient en regardant ailleurs, poser des questions sans lever les yeux ou effectuer tout travail ne se rapportant pas directement au cas présent.

Par une attitude ou posture détendue, on peut communiquer une attention réelle, laquelle ne devrait pas être perturbée par des éléments extérieurs à la relation présente. Par exemple, il faudrait éviter de se lever constamment pour rassembler instruments, documents ou matériaux requis pour le rendez-vous du patient en sa

présence. En effet, toutes ces pièces pourraient être rassemblées au préalable.

Finalement, en émettant des messages verbaux ou non-verbaux en relation avec les émissions du patient, sans l'interrompre et sans changer de sujet de conversation, on montre que son message a été effectivement reçu. Ce peut être un simple hochement de tête, un hum-hum ..., "je vois ce que vous voulez dire" ou encore la répétition de derniers mots du patient.

B) Les questions

Cette habileté consiste à orienter l'entrevue par un usage éclairé de questions directes et ouvertes. Auger¹³ désigne par question directe, la question de fait par laquelle on recueille des données précises sur un sujet défini. Par contre, la question ouverte chercherait davantage à introduire un véritable dialogue entre les partenaires.

On comprendra mieux la différence substantielle entre la question ouverte et la question directe par quelques exemples. Un patient se présente au rendez-vous avec un problème. L'hygiéniste tente de découvrir les dimensions physiologiques de ce problème ainsi que les aspects émotionnels qui y sont rattachés. Il aide le patient à explorer ses impressions face à la dentisterie et l'encourage à être actif dans le déroulement de l'entrevue.

Patient: J'ai mal aux dents depuis une semaine.

Hygiéniste: Quel genre de douleur?

(Question ouverte)

Parlez-moi de cette

douleur? (Question

ouverte)

Avez-vous mal lorsque vous mangez? (Question directe)

Ces deux types de question sollicitent le patient à s'exprimer. La question ouverte initie le sujet de discussion. Lorsque le patient a expliqué sa perception de son problème ou de sa situation l'hygiéniste est en meilleure position pour questionner directement ce dernier dans le but de préciser cliniquement ce problème ou cette situation.

Ainsi, en ce qui concerne les instructions d'hygiène dentaire, l'hygiéniste pourrait poser quelques questions ouvertes et/ou directes à son patient afin de déterminer l'étendue de son savoir et afin de connaître ses impressions face à la dentisterie et à la prévention dentaire. Après coup, l'hygiéniste est en meilleure position pour adapter les instructions d'hygiène aux besoins réels de son patient. Sinon, les instructions pourraient risquer de devenir une morne répétition de connaissances acquises pour le patient, un fastidieux monologue pour l'hygiéniste et une perte de temps pour les deux.

C) La paraphrase

Par la paraphrase, l'hygiéniste reprend le contenu du message du patient en des termes différents. Il ne s'agit pas ici d'une morne répétition des dernières paroles du patient mais plutôt d'une clarification de son message. En effet, la paraphrase vise plusieurs objectifs: préciser la pensée du client, le soutenir dans l'exploration de son problème, transmettre un véritable intérêt et évaluer la perception de son message.

Cette habileté consiste à répéter le message du patient en des termes concrets et spécifiques qui aurait l'avantage de clarifier le message du patient avant de s'avancer ou d'approfondir la communication. Il s'agit ici de choisir des termes à la portée du patient. Préciser la pensée du patient ne signifie pas nécessairement reprendre la communication en des termes scientifiques inaccessibles pour lui. Par contre, les explications simplistes qui pourraient transmettre inconsciemment un manque de respect sont à éviter.

L'hygiéniste doit également tenir compte de l'intensité du message du patient. Même si la paraphrase focalise l'attention surtout sur le contenu actuel d'un message, elle n'ignore pas le contenu émotionnel. En effet, ces deux aspects d'une communication sont généralement liés. Il serait mal aisé de les séparer catégoriquement.

Voici quelques exemples de paraphrases:

Patient: Quelquefois j'ai mal et d'autre fois non.

Hygiéniste: La douleur est intermittente.

Patient: (le patient bouge beaucoup).

Oui, je ressens cette douleur surtout au lever. On dirait alors que mes mâchoires sont crispées.

Hygiéniste: Vous me semblez nerveux.

D) Les résumé

Se rapprochant sensiblement de la paraphrase, le résumé vise les mêmes objectifs, mais diffère en ce sens qu'il couvre une plus longue période de temps. Tout au long de l'entrevue, l'hygiéniste peut émettre des paraphrases qui seraient rassemblées en un tout cohérent au moment opportun pour clore une entrevue ou une discussion. En faisant le point sur ce qui a été dit avant d'aborder un thème nouveau, le résumé pourrait faire naître des moments de réflexion enrichissante.

Le résumé est utilisé avantageusement dans plusieurs situations: (1) au début d'une entrevue pour rappeler l'entrevue précédente, (2) pour clarifier le message du patient qui semble imprécis ou ambigu, (3) pour faire le point avant d'amorcer un nouveau sujet, (4) pour s'assurer que le patient a bien

compris ce qui lui a été dit, (5) pour conclure une entrevue. Bien entendu, ces situations ne représentent qu'un aperçu des multiples utilisations du résumé.

Afin de formuler un résumé acceptable, l'hygiéniste doit, tout au long de l'entrevue, émettre des paraphrases qui clarifient la communication du patient en insistant sur les points importants. Après un certain temps, il s'agira de se remémorer ces paraphrases à la lumière des nouveaux commentaires émis par le patient.

Exemple:

Hygiéniste: Si j'ai bien compris, depuis deux mois vous ressentez vos mâchoires tendues au lever. Vous entendez des craquements lorsque vous ouvrez la bouche et cela vous a énervé parce que vous en ignorez la cause. Je vais maintenant faire l'analyse de votre occlusion afin d'évaluer son rôle dans votre problème.

Conclusion

La relation qui unit le personnel dentaire et le patient conditionnerait le comportement de ce dernier face à la dentisterie. Afin d'améliorer la capacité des hygiénistes dentaires à communiquer harmonieusement avec leurs patients, nous proposons une série de quatre (4) habiletés qui peuvent s'avérer utiles dans la conduite d'une entrevue. D'ailleurs, celles-ci ont été expérimentées avec succès par un groupe de 8 étudiantes de programme du baccalauréat ès sciences en hygiène dentaire dans le cadre de leurs cliniques régulières avec patients¹⁴. Certaines étudiantes qui s'étaient montrées sceptiques au début de l'expérience, en jugeant les habiletés étudiées comme étant artificielles, ont manifestement changé d'opinion en constatant l'action facilitante de ces habiletés sur le comportement des patients, habiletés qui semblaient être accueillies favorablement par ces derniers.

Tout en représentant des aspects importants d'une communication, ces habiletés ne couvrent pas la totalité d'une entrevue. En effet, plusieurs autres habiletés restent à étudier et à expérimenter telles que les habiletés ayant trait à l'analyse des émotions du patient (peur, anxiété, etc...). Il serait probablement avantageux de les développer pour éclaircir et résoudre certains problèmes de communication qui peuvent survenir dans le cadre de la relation émotionnelle hygiéniste dentaire-patient.

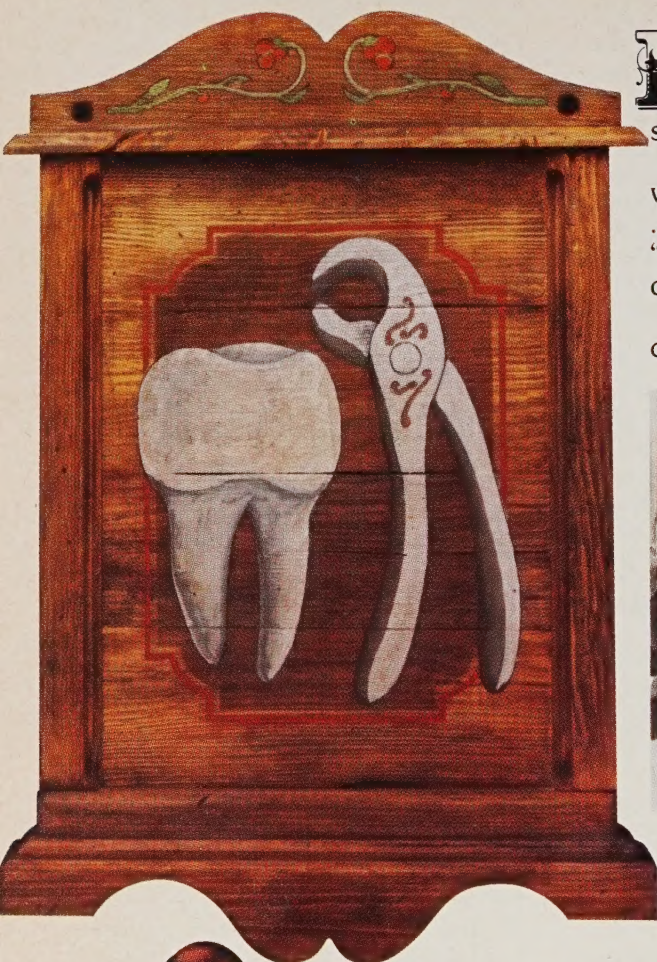
Ces habiletés ne devraient pas être considérées comme une panacée à une relation délétère ou déficiente. En effet, pour être efficace, celles-ci devraient être supportées par des attitudes facilitantes hautement intégrées à savoir l'empathie, le respect et l'authen-

ticité. A défaut de quoi, les habiletés risqueraient de paraître artificielles, détachées du contexte et manqueraient ainsi leur principal objectif qui serait de faciliter la communication hygiéniste dentaire-patient.

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*Ericsson, Y., The mechanism of the monofluorophosphate action on hydroxyapatite and dental enamel, Acta Odont. Scand., 21, 341-358 (1963).

† Colgate Toothpaste contains sodium monofluorophosphate, which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care.

** TM



SOME CHARACTERISTICS OF COMMUNICATION APPLICABLE TO THE DENTAL HYGIENIST - PATIENT RELATIONSHIP (ENGLISH SUMMARY)

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Good communication between the patient and the dental hygienist is as important as the treatment itself. Because of the complexities involved in developing effective communication skills, it is considered necessary to offer dental hygiene students a formal program in communication skills and behaviour modification techniques. A structured approach to the patient interview has been suggested which is based on the principles of microcounseling. (2)

THE IMPACT OF COMMUNICATION IN DENTISTRY

Since the discovery of the relationship between bacterial plaque and the prevalence and progression of caries and periodontal diseases, an ever-increasing emphasis is placed on prevention. This emphasis requires more educational communicating between the dental profession and the public. The private dental office, wherein direct one-to-one contact is accessible, provides an excellent medium for a more personal and favourable approach to preventive education.

Effective communication is important in dentistry and dental hygiene because:

1. Patients are often afraid of the pain associated with dental procedures, which may be learned from personal experience or from incorrect information.
2. The oral cavity is important for mastication, pronunciation, esthetics and emotional considerations.

Therefore in dentistry, we cannot deny the impact of psychological factors which are directly related to the teeth. Research has shown that, during infancy and childhood, the mouth is a region of emotional involvement. When the hygienist is focusing her attention on this private area, many patients exhibit what seems to be inexplicable defensive behaviour. Therefore, the hygienist could be confronted with problems which are deeply

rooted in the complexity of the human personality. Open communication contributes directly to an accurate evaluation of the real needs of the patient.

Some specific suggestions in establishing good communication with your patient:

I. Attention

The dental hygienist must concentrate all her attention on the patient. This demonstrates her sincere desire to understand the patient and is essential in gaining the patient's trust. In return for this, the patient will eventually communicate more. Some considerations in attempting to be more attentive to the patient:

(a) Non-verbal actions (mannerisms, tone of voice, facial expressions) can relax the patient and transmit a feeling that you are genuinely interested in the patient's message. A simple nodding of the head, a "hum-hum" (I see what you are trying to say), or repeating the patient's last words will show him that his message has been effectively received.

(b) Direct eye-to-eye contact with the patient when speaking or listening gives the patient confidence. As much as possible, refrain from talking to your patient while looking elsewhere, asking questions without lifting your eyes, and doing any work not relating directly to the person in your chair.

(c) Have everything prepared in advance, before the arrival of the patient, so that you can give your undivided attention to the patient and maintain the continuity of your discussion.

II. Questions

There are two kinds of questions — direct and open. A direct question demands a precise thought on a definite subject. Often the hygienist will ask the patient a direct question to obtain specific information. Open questions are more complex and inevitably introduce a dialogue between partners. This requires that the patient gain more confidence and express himself more freely,

without interruption. The difference between a direct and an open question is better understood by an example.

Patient: My teeth have been hurting for a week.

Hygienist: What kind of pain do
you feel? (open question)
Does it hurt when you eat? (direct
question)

In addition, the extent of the patient's dental knowledge can be assessed by asking both types of questions. This allows the hygienist to adapt her oral hygiene instructions to the patient's real needs. Otherwise, the instructions risk becoming a dull repetition for the patient, a fastidious monologue for the hygienist, and a waste of time for both.

III. The Paraphrase

The hygienist should recapitulate the statements of the patient in order to clarify his interpretation. This is most effective when done in a respectful, concerned, and precise manner using scientific language which is neither incomprehensible nor demeaning to the patient. The intensity or underlying meaning of the patient's message should also be realized. Here are a few examples of paraphrases:

Patient: Sometimes it hurts and other times it doesn't.

Hygienist: The pain is intermittent.

Patient: (He moves around a lot)

Yes, I feel the pain especially when I rise. It feels that my gums are sore.

Hygienist: You look nervous to me.

IV. The Summary

At the end of the interview, the hygienist should review the content of the discussion by restating the paraphrases used in the discussion. This provides the opportunity to clarify the patient's needs and to lead from a familiar area to a new topic. This summary can be used at the subsequent visit to provide continuity and assure that both parties understand each other's messages.

Conclusion

These four techniques have been tested by eight Bachelor of Science in Dental Hygiene students in the clinics at the University of Montreal. Students that were skeptical of the approach at the onset of the program changed their opinions after testing these techniques with their patients and finding them to be successful in developing a more satisfactory communication line between patient and operator.

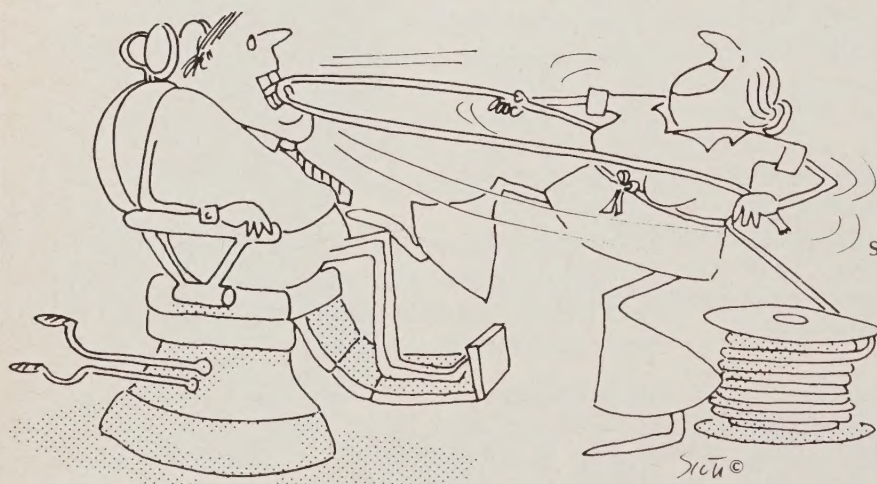
It is necessary to remember that these techniques will only be valid if the relationship between the patient and dental hygienist is treated with respect and authenticity. In the future, it would be advantageous to study other aspects of communication pertaining to the emotional behaviour of the patient. (eg. fear, anxiety) in order to further improve the relationship between dental hygienist and patient.

We wish to acknowledge the services of Mr. Alain Saporta and express our gratitude to him for providing us with a literal English translation of the text. In addition, we are grateful to Ms. Judy Barnes for her English summary of the article.

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ABSTRACTS

THE DENTAL HYGIENIST AS OFFICE MANAGER

Because of imbalances in the provider-demand curve, the dental hygiene profession faces a period of limited growth and opportunities. The position of office manager may offer career advancement opportunities for many interested dental hygienists.

A questionnaire regarding the future of the dental hygiene profession was sent to all dental hygienists licensed in Minnesota. A total of 83% returned their forms for analysis, and 30% responded negatively in regard to salary, benefits, advancement, and job security. Also, 56% were either undecided or negative towards encouraging entry into the dentene field.

Given eight concerns of the dental hygiene profession, the hygienists ranked each in regard to its effect on future dental hygiene practice (Table). Although the results support the belief that the number of dental hygienists and dentists currently in training should be reduced, it is questionable that such action would increase the career opportunities of the remaining hygienists. To increase opportunities for career growth and actualization of individual potential, a significant reduction in the number of dentists would be required. Expected results of this reduction could be the delegation of new duties to the hygienist because of the dentist's involvement with specialty tasks, or possibly an increase in benefits and compensation because of new responsibilities. However, it is doubtful whether either example will prevail.

The health manpower policy of the past 15 years was based on the belief that there would be national health insurance, a continuing increase in the birth rate, and continued growth in affluence of the population. None of these predictions were valid. A 1971 University of Minnesota survey indicated that the number one issue facing the profession was that of too many dentists. But, because of prior commitments made by the dental training institutions, the practitioners will probably continue to face this problem. And with the overproduction of dentists, they will be delegating only the more basic procedures to auxiliaries.

The continuing development of the dental care delivery system is creating a greater demand for office managers with dental expertise. Responsibilities

could include interpersonal management; hiring, performance evaluation, and termination; staff development and training; consumer evaluation; group interaction; management of delivery systems; and management of financial aspects of dental care delivery systems. Since subject matter will not be available in a form designed specifically for the dental care delivery system, students will have to interpret it for their specific work environment. Hygienists need not completely separate themselves from their current duties; they can exchange one or more of the office manager responsibilities for current tasks. [Meskin, Lawrence H. Division of Health Ecology, School of Dentistry, University of Minnesota, Minneapolis, 55455. Focusing on the future: the dental hygienist as an office manager. *Dent Hygiene* 53(9):414-416, 1979]

Table • Results of a rank ordering of issues as to their effect on the future practice of dental hygiene. 1 indicates the most effect; 8 indicates the least effect.

Dental hygiene is faced with a series of new and sometimes perplexing issues. Please rank order those issues in terms of how you believe they may affect the practice of dental hygiene.

ISSUE	RANK
Oversupply of dental hygienists	1
No opportunity for career growth	2
Overeducation — not allowed to perform up to legal potential	3
Dental Assistants performing many dental hygiene duties	4
Inadequate employee benefits	5
Domination of the dental hygiene profession by the dental profession	6
Inadequate financial compensation	7
Not being treated as a professional member of the dental team	8

TOOTHBRUSHING TECHNIQUES AND PLAQUE LEVELS

This investigation showed that no one toothbrushing stroke was clearly superior to any other for plaque removal. Different types of stroke, however, tended to be associated with less plaque in different areas of the mouth. For example, the circular stroke on anterior and left buccal areas, the long horizontal stroke on right buccal areas, and the vertical stroke on lingual areas were associated with less plaque.

Fifty-seven 13-year-old schoolchildren participated in the study. They had received minimal instruction in toothbrushing. A gingival assessment was made before the child brushed, and a plaque assessment was made afterwards. During the brushing procedure, a film and videotape was made. The tapes were viewed on a monitor to record the brushing stroke used in 12 defined oral areas. The number of strokes used in each area was also recorded.

The mean duration of brushing was 51 seconds. Inasmuch as the dentitions were divided into 12 areas each, brushing behavior, plaque, and gingival conditions were scored in a total of 684 areas. Forty-three percent of these areas were not brushed. Of the remaining 57%, 41% were brushed with a short horizontal stroke, 36% with a vertical stroke, 6% with a roll, and 4% with a circular stroke.

A principal finding of the study was the inability of all types of stroke to remove plaque despite the fact that the children brushed vigorously for an average of 51 seconds. The brushed areas had only marginally less plaque than the unbrushed areas. Furthermore, no one stroke was clearly superior to another in every area of the mouth. Thus far, comparisons of plaque-removing effectiveness of brushing strokes have used one type of stroke for all areas of the dentition. Further studies might take into account the fact that some types of stroke may be more suited to particular areas of the dentition. [Rugg-Gunn, A.J.; MacGregor, I.D.M.; Edgar, W.M.; and Ferguson, M.W. Dental School, University of Newcastle upon Tyne, Newcastle upon Tyne, England. Toothbrushing behavior in relation to plaque and gingivitis in adolescent schoolchildren. *J. Periodont Res* 14(3):231-238, 1979]

PROOF?

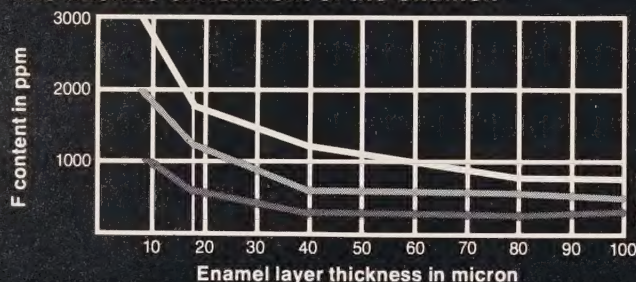
Fluor Protector*† is an organic fluor-silane compound suspended in thin colourless varnish. The liquid varnish sets up a protective shield which keeps fluoride from leaching. The varnish on contact with moisture releases hydrogen fluoride which penetrates deep into the enamel. A further reaction to moisture then occurs generating fluoride ions to leave a caries inhibiting shield.

PROOF IN THE PROTECTION — According to the area of application, liquid varnish remains several days on occlusal surfaces and up to several weeks on fissures. Since the liquid varnish sets up a protective shield and keeps fluoride from leaching, fluoride ions then penetrate deeper into the enamel as illustrated in the graph below, and give increased resistance against caries formation for up to six months with a single application!

PROOF IN THE APPLICATION —

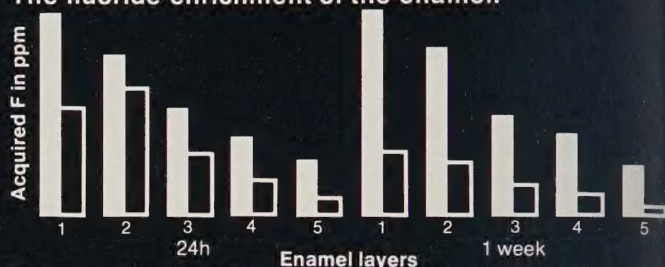
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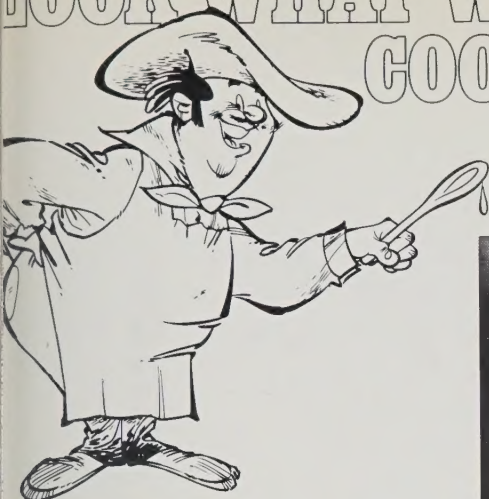
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- Clinical Associate Professor, Department of Periodontology, Tufts University, School of Dental Medicine, Boston, Mass.
- Formerly Associate Professor and Director, Department of Dental Hygiene, School of Dentistry, University of Washington.
- Author - "Clinical Practice of the Dental Hygienist" Lea & Febiger, Philadelphia, 1976.
- Friend to dental hygienists in Atlantic Canada.

Dr. Wilkins has conducted two continuing education courses with Atlantic Provinces dental hygienists. Through these experiences, dental hygienists have developed a high regard for what Dr. Wilkins has to offer the profession and truly appreciate her warm, friendly presentation. Dr. Wilkins will meet with dental hygiene participants on Monday morning to address topics of instrumentation; selective polishing and rationale for fluoride application related to instrumentation;

on Tuesday afternoon, Dr. Wilkins will address the dental team to present an integrated approach to the management of the periodontal patient in the general practice.

- **Limited Attendance Seminars** - Take advantage of small group settings to share problems or information. The program committee is presently putting together four such seminars. Tentatively, they will include: 1. public health administration for the dental hygienist; 2) team practice in public health (3 & 4 to be announced).
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Lectures are scheduled to feature Dr. T.R. Oldenberg, Professor of Paedodontics, University of North Carolina. Other lectures will include surgery, endodontics, periodontics and oral diagnosis.

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A photograph of a female dental professional with short brown hair, wearing a white lab coat, examining a young child's teeth. The child is lying back in a dental chair, wearing a white shirt and brown pants. The background shows a typical dental office setting with cabinets, drawers, and dental equipment. The title text is overlaid on the bottom half of the image.

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[†]Beiswanger, B.B., et al.: J. Dent. Child. 45:137, 1978.



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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

FALL 1980 AUTOMNE

VOLUME 14, NO. 3

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$15.00 per year in Canada and \$22.50 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$15.00 par année au Canada et \$22.50 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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Resume Writing: A Sign of Our Times

For many recent dental hygiene graduates, this fall marks their entry into the dental hygiene workforce, and consequently they find themselves confronted with the tedious task of composing a resume. How times have changed! Most of us never had to cope with this demand when we applied for our first position. We could be selective in choosing where we wanted to live, the type of practice we wanted to work in, and we could almost dictate the salary we wanted. Warnings of "don't take the first offer that comes along" and tales of hygienists interviewing dentists (instead of vice versa) were common.

The tables have turned in a few short years and the cold facts of the employment situation indicate that hygienists are in plentiful supply in several areas of the country, especially in urban regions of Ontario and Quebec. It is evident that, as the number of licensed hygienists swells, the competition for desirable positions increases, and the first step in obtaining one of these positions is submitting a resume.

Resumes are a means of selling yourself on paper and are used by the prospective employer to weed out unsuitable candidates before proceeding on to the interview stage. Therefore, it is essential that the applicant realize the basics of writing a good resume.

There are many sources which present cookbook approaches and tried-and-true formulae. Many suggestions do not apply directly to the employment-seeking hygienist, but worthwhile tips can be gleaned from reference materials and adapted to our situation. The following is a suggested format for a dental hygienist's resume.

Personal information should be stated first (name, address, telephone number, age, place and date of birth). Either education, if one is a recent graduate, or work experience should follow. Experienced applicants should list their employers, beginning with the name and address of their most recent employer, and briefly describe their responsibilities in each situation. The section concerning educational background can include

information regarding basic dental hygiene training as well as an outline of any continuing education courses attended and their dates. New graduates will want to embellish their education section and include any academic honours received during their hygiene and secondary school experiences to offset their limited employment background. Former employment in non-dental jobs or volunteer positions may be listed under work experience, especially if the occupation required constant interaction with the public.

Under the heading of professional affiliations and activities, state your membership in CDHA, since it shows a commitment to your career and a desire to keep abreast of new developments in the field. Also include any lectures, presentations, publications, or table clinics you have been involved with, and indicate the positions you have held in any organization to emphasize your leadership and decision-making capabilities. In addition, it is suggested that a brief section concerning your personal interests be included. This will suggest to the employer that you are an outgoing, sociable, well-rounded individual as well as an industrious and competent dental auxiliary.

Lastly, list the names of two or three references, their addresses and phone numbers. Type the information on good quality, standard-size paper using clear headings and point form style. You are now ready to submit your resume along with a typed, grammatically correct, cover letter. Retain a copy of your resume in a separate file where you can add to it occasionally, as your career progresses.

By following these simple guidelines, you will produce a professional looking resume which should successfully convey your suitability for a position and prepare you for the initial stage of the job selection process, when the perfect employment opportunity arises.

Stephanie Nagle



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MEET YOUR PRESIDENT



Your 1980-81 CDHA President is 29-year-old Margaret Gail Bailey of Kindersley, Saskatchewan.

Marge received her Diploma in Dental Hygiene from the University of Manitoba in 1971 and continued to take courses from the University of Saskatchewan in Saskatoon towards her Bachelor of Arts degree during the 1972-75 academic terms, while her husband, Dana, finished dental school.

During their years in Saskatoon, Marge was employed as a hygienist in a private practice dental group, and in 1976 she functioned as an instructor in the Dental Assistant Program at the Kelsey Institute. Later that year the Bailey's moved from Saskatoon to Regina where Marge acted as Deputy Head of the Dental Assistant Program at the Wascana Institute.

While in Regina, Marge served as a CDHA delegate and as president of the Saskatchewan Dental Hygienists Assoc-

iation. She also retained her position as liaison and SDHA representative to the Council of the College of Dental Surgeons of Saskatchewan, a position she has held since 1972. Marge feels that this responsibility has been valuable to her in developing skills in communication, public relations, and parliamentary procedures, and in providing her with information concerning litigation and legislation.

In 1978 Marge and her husband moved to Kindersley, Saskatchewan, where Marge now works as a part-time dental hygienist.

Although her formal education has been interrupted, Marge hopes to complete her degree at some future date. In the meantime Marge has attended every provincial dental hygiene convention and most continuing education courses held in her province since 1971. She has also completed expanded duty courses in restorative procedures, root planing, and local anaesthesia and has conducted St. John's Ambulance First Aid programs and radiography courses for dental assistants.

Marge is an avid skier and enjoys macrame, sewing, and ceramics. She and Dana have one son and are expecting a second edition to the family this fall. Marge jokes that CDHA will have a productive year!

We wish Marge all the best in the upcoming months as she delves into her new responsibilities as CDHA President and thank her for giving us this opportunity to get to know her better.

WHAT'S HAPPENING WITH . . .

● CDHA's ANNUAL BOARD MEETING:

The 17th Annual Session of the CDHA Board of Directors was held July 11-13 in Halifax.



Pictured above, starting at the far left, are Jackie Smorang, 1979-80 Treasurer, Marge Bailey, 1979-80 President-Elect, Linda Zambolin, Speaker for the Board, Diane Girardin, 1979-80 President, and Cara Tax, 1979-80 Secretary.

● NOMINATIONS:

The 1980-81 President of CDHA is Marge Bailey. We wish Marge all the best throughout her term of office. Working closely with Marge will be Secretary, MaryAnne Wailing, Treasurer, Linda Weins, President-Elect, Pat Grant, and Immediate Past President, Diane Girardin. Canadian dental hygienists are fortunate to have such a competent executive representing them for the 1980-81 term.

This is a good opportunity for me to congratulate Diane Girardin on a job well done. It was a privilege and an invaluable experience working with Diane and the members of the 1979-80 executive council.

● CONVENTION 1980:

A salute goes out to Kim McGrail and her convention committee members for a superb job in organizing the Halifax Convention. Thanks and congratulations to convention committee members for making convention 1980 a smashing success.

Next year's convention will be held in Calgary, August 30, 31, September 1, 2. Molly Moore is the 1981 convention chairman and is already hard at work for next year's session.

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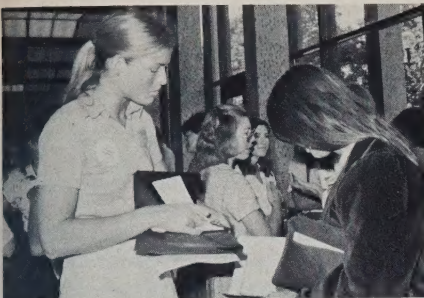
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Kim (left) attends to final details.

● MEMBERSHIP:

It was recommended at the CDHA Board Meeting that the large volume of membership records be computerized. Ward McCance, a computer systems analyst, has agreed to modify the computer programs in use by the Ontario Dental Hygienists' Association and adapt them for use by the Canadian Dental Hygienists' Association.

A national membership campaign will be launched this fall under the direction of Sherita Clark with the assistance of resource personnel. CDHA desires to increase its membership across Canada, and has, therefore, approved this National Membership Campaign proposal.

● INSURANCE:

Ron Berry, our Insurance Consultant, presented Mutual of Omaha's disability plan to the Board of Directors for approval.

The plan was endorsed by the Board, and a liability insurance plan is now under investigation.

● UNEMPLOYMENT INSURANCE:

On April 16, 1980, Employment Ministry Lloyd Axworthy recommended to the government that changes be made in the unemployment insurance regulations. Presently the Unemployment Insurance Act specifies that an employee must be employed by one employer for at least twenty hours a week in order to be eligible for unemployment insurance coverage. Axworthy has recommended that the Act be amended so that the coverage would be extended to employees working only fifteen hours per week. If this recommendation receives government approval, it would be effective January 1, 1981.

CDHA would like to thank Elaine Good, our Manpower and Utilization Chairman, for her excellent policy statement on unemployment insurance and for the time and efforts she has given to this important matter.

Cara Tax
Executive Council
Journal Contributor

UPDATE ON PILOT PROJECT FOR SASKATCHEWAN DENTAL NURSES

The twelve Saskatchewan dental nurses participating in the dental hygiene pilot project at Wascana Institute have successfully completed the program and are now employed. The duration of the program was approximately five and a half months. Two of the twelve students have recently passed Dental Hygiene Board Examinations in Alberta and Ontario, and all twelve are registered as dental hygienists with the College of Dental Surgeons of Saskatchewan.

On March 12, 13, 14, 1980, Ms. Kate McDonald, Director, Dental Hygiene, Dalhousie University and Dr. R. Oles, Assistant Professor, Periodontology, Faculty of Dentistry, University of Saskatchewan carried out an on-site evaluation using the guidelines of the Council on Dental Education of the Canadian Dental Association. In a written report to the College, they stated that, in their opinion, the project met all requirements of the Council for Accreditation and, in a subsequent meeting, the Col-

lege of Dental Surgeons of Saskatchewan approved and accredited the project until 1984.

We are awaiting approval to operate the project on a continuing basis and can report that a considerable number of dental nursing graduates have expressed interest in participating.

The goal of the project, to determine the curriculum and time requirements for a module of additional training for graduate Saskatchewan dental nurses, was met, and the required objectives for the necessary courses were developed. In the areas of basic dental science, self-directed learning strategies were employed, and it is hoped that in the future learning packages will be used, particularly in the area of periodontology.

I wish to acknowledge the valuable contribution made by Ms. T. Cannon, R.D.H., B.Sc. to the project, and I know that the students who participated greatly appreciated her efforts in planning and delivering the project.

Dr. G.W. Keenan
Chairperson, Dental Division
Wascana Institute, Regina

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FELLOWSHIPS FOR HYGIENISTS UPPED FOR 1980

During the years 1970 through 1974, CFDE offered scholarships for dental hygiene students. Recognizing the growing need for highly trained dental hygiene teachers, the CFDE Trustees, with the agreement of the CDHA Executive, decided to replace the scholarships with a fellowship program for prospective hygiene teachers in 1975.

Contributions from hygienists and hygiene associations have greatly helped to provide the \$37,000 needed for these two programs.

This year the CFDE Advisory Committee on Fellowship Selection recommended to the Board of Trustees that the amount of funds awarded annually to dental hygienists be raised. This recommendation was made in response to the increasing number of eligible hygienists seeking financial assistance for their post-diploma or graduate training in order that they may assume academic positions within a dental or dental auxiliary institution. As a result, the CFDE Board of Trustees have increased the grant allotted to dental hygienists by \$3,000. For the 1980-81 academic term \$8,500 was approved for hygiene fellowships which will be dispersed among the following nine recipients: Anne Appleby, Dalhousie University; Francis Lawson, University of Kentucky; Shirley Bassett, University of Toronto; Shereen Caisley, University of Toronto; Laura Dempster, University of Toronto; Patricia Johnson, University of Toronto; Fay Keith, University of Washington; Tamera Krievins, University of Toronto; and Karina Meirins, University of Toronto.

As the 1970's come to a close, the dental hygiene profession may reflect upon ten years of rapid progression in terms of numbers of practising hygienists, quality and extent of preventive services provided, and public acceptance as an entity of the dental profession.

These changes did not "happen", rather they resulted from dedicated efforts of dental hygienists moving into educational and administrative positions within the university and community college programs.

Many hygienists have prepared themselves for an educating role via part-time studies in the science and education disciplines. At long last, Canada has a post-graduate program for dental hygienists, namely the Bachelor of Science in Dentistry program at the University of Toronto, which is available to hygienists from across Canada for further educational study.

Hopefully, similar programs will be developed within other universities in Canada to improve the availability of this type of education.

CFDE has recognized the contribution of this program to the dental hygiene and dental professions within our country. Furthermore, the Fund has provided fellowships for dental hygienists engaged in the two-year post-hygiene program to assist the financing of full-time studies.

On behalf of the B.Sc.D. program at the University of Toronto and as the Education Chairman of the ODHA, may I extend sincere appreciation to CFDE for its investment in people.

*Helga Dettbarn, R.D.H., B.Sc.D.
Department of Preventive Dentistry
University of Toronto*

Alors que les années '70 tirent à leur fin, les hygiénistes dentaires peuvent songer à la progression rapide des dix dernières années, en ce qui concerne le nombre d'hygiénistes qui exercent leur profession, la qualité et l'envergure des services préventifs offerts, ainsi que l'acceptation publique des hygiénistes à titre d'entité dans le cadre de la profession dentaire.

Ces changements ne sont pas simplement "survenus", mais ils sont plutôt le résultat des efforts incomparables faits par les hygiénistes, qui ont progressé pour aboutir à des postes d'enseignants et d'administrateurs au sein de programmes dans les universités et les collèges communautaires.

De nombreuses hygiénistes se sont préparées à occuper un rôle dans l'enseignement en faisant des études à temps partiel dans les disciplines de la science et de l'éducation. Le Canada a finalement un programme post-universitaire destiné aux hygiénistes dentaires, soit le programme "Bachelor of Science in Dentistry" à l'Université de Toronto, ouvert aux hygiénistes de tout le Canada en vue d'approfondir leurs connaissances dans le domaine dentaire. On espère que d'autres programmes de

ce genre seront mis en oeuvre à diverses universités canadiennes, afin d'amplifier la disponibilité de cet enseignement.

Le FCED a reconnu la contribution que fait ce programme aux professions de l'hygiène et de la médecine dentaires. Le Fonds a également octroyé des bourses aux hygiénistes dentaires inscrits au programme de post-hygiène de deux ans, pour les aider à financer des études à plein temps.

Au nom du programme de B.Sc.D. de l'Université de Toronto et à titre de présidente du conseil de l'éducation de l'O.D.H.A., je désire remercier sincèrement le FCED pour l'investissement qu'il fait dans l'avenir.

*Helga Dettbarn, R.D.H., B.Sc.D.
Département de médecine
dentaire préventive
Université de Toronto*

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The CFDE trustees wish to pay tribute to the following individuals who contributed to the Dental Hygiene Fund in 1979.

Les fiduciaires du FCED désirent rendre hommage aux personnes suivantes qui ont contribué au Fonds d'hygiène dentaire en 1979.

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PRESENTING PREVENTION

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The brushing chart identifies placement, angulation, and stroke technique with 5 intra-oral enlargements followed by several pointers about toothbrush selection and a systematic brushing regime.

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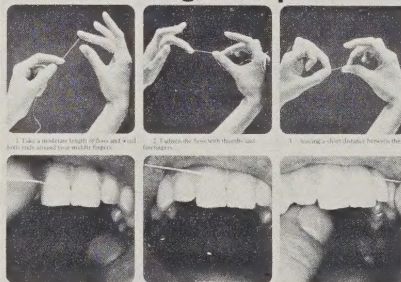
Helga Dettbarn

Flossing chart Daily Dental Hygiene

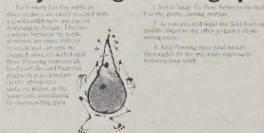
Every day an almost invisible film of harmful bacteria is deposited on the surface of your teeth and along the gum line. This film is called dental plaque and the bacteria it contains is a major cause of dental disease.

Removing it before it has the chance to harm your teeth and gums is the most effective preventive measure you can take. Flossing is a daily dental necessity and a complementary procedure to brushing your teeth.

Flossing technique



Why flossing? Flossing tips



Remember

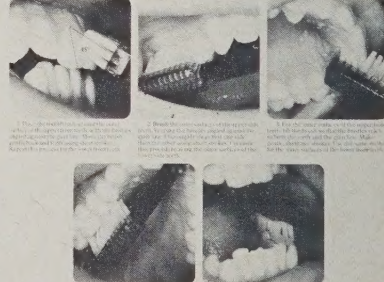


Toothbrushing chart Daily Dental Hygiene

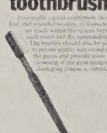
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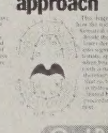
Brushing technique



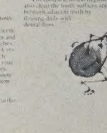
Use a good toothbrush



A systematic approach



Remember!



SELF-ASSESSMENT TEST

The 1980 series of Self-Assessment Tests are provided by dental hygiene educators at the University of Alberta, Edmonton, Alberta. The third test reviews Cardiopulmonary Resuscitation.

When you have completed the test, turn to page 72 for the correct answers.

1. Which of the following is generally not considered to be a warning sign of heart attack?
 - ☒ a) Pain in the legs.
 - b) Squeezing feeling in the chest.
 - c) Numbness or aching in the arms.
 - ☒ d) Aching jaws.
 - e) Nausea, sweating and shortness of breath.
2. The greatest risk of death from a heart attack is within:
 - ☒ a) the first two hours after onset of symptoms.
 - b) the first eight hours after onset of symptoms.
 - c) the first twelve hours after onset of symptoms.
 - d) the first twenty-four hours after onset of symptoms.
3. C.P.R. is unlikely to restore a victim to his pre-arrest level of brain function if cardiac arrest has persisted for more than:
 - a) 1-2 minutes.
 - b) 2-4 minutes.
 - c) 3-5 minutes.
 - ☒ d) 4-6 minutes.
4. When two rescuers are performing C.P.R., the rescuer giving chest compressions:
 - ☒ a) should pause after every fifth compression, while the second rescuer gives ventilations.
 - b) should pause after every twelfth compression, while the second rescuer gives ventilations.
 - ☒ c) should not pause while the second rescuer interposes ventilations during the upstroke of each fifth compression.
 - d) should not pause after compressions, except in the case that he becomes tired.
5. What condition should exist before the rescuer attempts to revive a victim by performing C.P.R.?
 - ☒ a) permanent brain damage has occurred.
 - b) evidence that breathing and the pulse are absent or questionably present.
 - c) the victim's pupils are dilated.
 - d) the victim has shallow respirations.
6. In mouth to mouth resuscitation the victim's dentures routinely should be:
 - ☒ a) removed because they contain bacteria.
 - b) left in (unless unusually loose) because they facilitate making an air-tight seal.
 - ☒ c) removed because they frequently obstruct the airway.
 - d) left in because it is illegal to remove them without the victim's consent.
7. When one rescuer performs C.P.R., the ratio of chest compressions to lung inflations for any adult victim is:
 - ☒ a) 12 compressions to 2 ventilations.
 - b) 5 compressions to 1 ventilation.
 - c) 7 compressions to 1 ventilation.
 - d) 15 compressions to 2 ventilations.
8. Artificial circulation is produced when the chest is compressed by squeezing the heart between:
 - a) the clavicle and the scapula.
 - ☒ b) the sternum and the spine.
 - c) the clavicle and the spine.
 - d) the sternum and the xiphoid process.
9. How far down should you depress the sternum for external cardiac compression on an adult?
 - ☒ a) 1/2 - 1 inch.
 - b) 1 1/2 - 2 inches.
 - ☒ c) 2 - 2 1/2 inches.

Handwritten notes: 1 1/2 - 2 chest, 1 - 1 1/2 baby
10. For a conscious victim with a complete airway obstruction, the rescuer should first:
 - ☒ a) perform a finger probe to remove the obstruction and attempt to ventilate.
 - b) deliver 8 manual thrusts and perform a finger probe.
 - c) deliver 4 back blows and perform a finger probe.
 - d) deliver 4 back blows and 4 manual thrusts until effective, or until the victim becomes unconscious.

SUGGESTED REFERENCES:

Canadian Heart Foundation. Cardiopulmonary Resuscitation (C.P.R.). Recommended Standards for Basic Life Support. Ottawa: Canadian Heart Foundation, 1977.

Anita Eastwood, R.D.H., B.Sc.
Instructor, Dental Hygiene Program
University of Alberta

TOOLS FOR NUTRITION AND PREVENTIVE DENTAL COUNSELLING FOR SOUTH EAST ASIAN REFUGEES

Dale Scanlan, R.D.H. and Marlene Wyatt, R.P.Dt.

*The authors are employed in the Dental Clinic and
Dietetic Department at Children's Hospital of East-
ern Ontario, Ottawa, Canada.*

One of the most challenging situations facing dental hygienists across the country is the counselling of someone from a totally different culture. The immigration of South East Asians to this country presents just such a challenge.

Originally the majority of South East Asian refugees settled in and around the large urban centres across the country (Fig. 1), particularly those of Ontario and Quebec. Journalists have stated that, after approximately one year, many refugees have decided to emigrate West. A reason for this move may be their lack of fluency in English or French which has made these Asians unsuitable for their former occupations. The unskilled jobs available in the West entice them to venture forth. Previous hardships of war, difficulties of emigrating, and the fear of confronting an unknown future have resulted in the bulk of refugees being in the under thirty age category (Fig. 2). The majority of the 13-30 age group possess an education equivalent to our primary and secondary education (Fig. 3). They present the prime target group for dental instruction since the influences made upon them will affect, not only themselves, but their younger and older generations. To make the most of this influence, one must be aware of cultural background differences pertaining to their dental and dietary customs.

Traditionally S.E. Asians follow a semi-vegetarian diet, low in animal protein and fat, and high in carbohydrate (mainly of a starchy nature). This diet, if followed as tradition dictates, is probably superior to our own North American diet in most instances. The N.A. diet consists of excessive

saturated fat, animal protein, and carbohydrate in the form of sucrose. The S.E. Asian diet, customarily followed, produces deficiencies only when food shortages occur, such as those experienced during war. The habits of brushing and flossing are not alien to them; however, dental awareness is minimal by N.A. standards. Freshening and cleansing of the mouth are commonly practised by the majority, in fact, the toothbrush was invented by the Chinese, who have played a large part in S.E. Asian history. Flossing has been practised for centuries using strands of silk or hair; however, the term itself has not been used to describe this procedure. The older generation use the fibrous peel of the betel nut rubbed over the gums and teeth, two or three times a week. Although the whitening qualities of this method are unfounded, it probably does aid in cleansing the mouth. Alternate methods of cleaning include charcoal and sea salt rubbed over the teeth and rinsed with water.

The S.E. Asian's first introduction to a Canadian dental office will likely take place during an emergency visit. Following treatment, some dental education should be attempted. This attempt may convince the person and/or parent of the need for further dental care and may encourage them to gain further knowledge. However, too much education initially will confuse the patient and foster resentment. "Resentment is a common reaction to attempts to enforce change."⁶

In order to choose the most effective approach, it is necessary to gain insight into Asian attitudes,

Figure 1

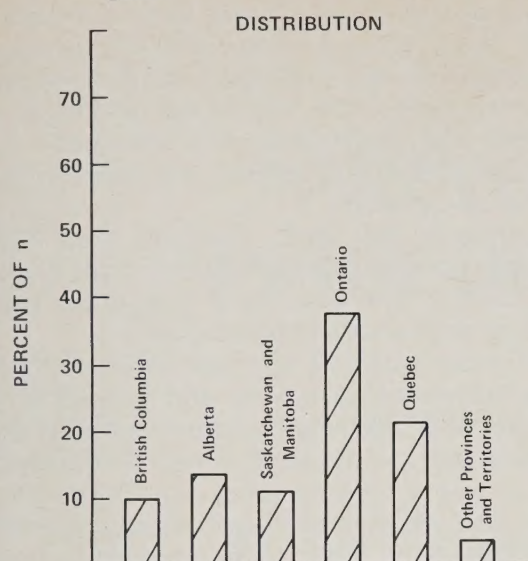


Figure 2

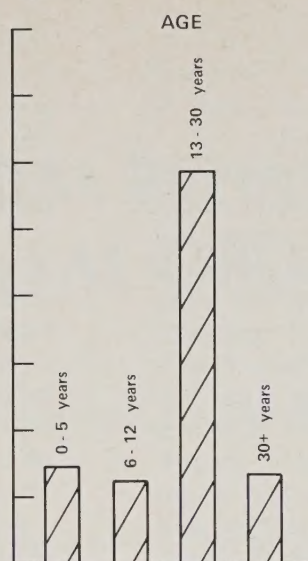
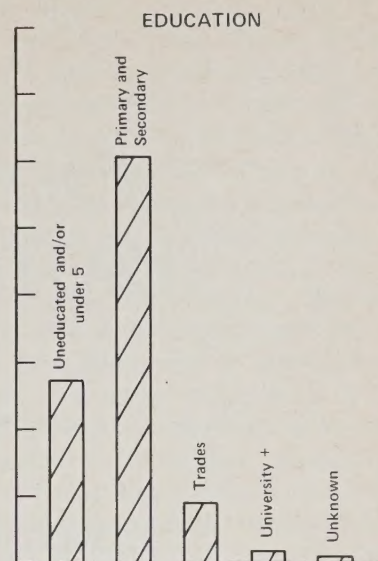


Figure 3



These graphs are based on an n of 20,845 persons who immigrated up to November 30, 1979. All figures from the Canadian Employment and Immigration Commission.

ingrained beliefs, and life experiences. The reality of constant conflict, a situation virtually unknown to us, has necessitated placing survival needs at the top of their priority list. Their removal from a war-torn country has diminished their need for physical survival. The emphasis now centres on their psychological survival in an alien land. Community, family life, and religion were the three constant elements in their day-to-day existence for generations. The loss of these traditional, primal components has undermined their feeling of stability. The critical concern for the S.E. Asian refugees is that their children will radically alter these traditions due to their lack of close ties with the homeland. This stressful inevitability is difficult to contend with for a people who deeply believe in ancestor worship and constancy.

S.E. Asians are an extremely polite people - a politeness that can cause misunderstanding. They do not wish to disappoint you and, therefore, will say they understand an idea even when they do not. A "yes" or "no" answer will be given according to what they think you want to hear, rather than to what they mean. Very often you will see no reaction, even to a painful procedure, as they do not believe in public shows of emotion. The personality traits attributable to them include flexibility, passive determination, and harmonious orientation. They are keenly aware of nature and simplicity as opposed to artificiality. Although this pertains more to daily living, the idea could be beneficially used in dental education to emphasize the desirability of retaining their natural dentition.

"Scratch the Wind" or Cao Gio is a custom of particular interest, since it may appear to health professionals as a deliberate case of child abuse. This common practice of folk medicine involves the vigorous application of medicated ointments to the body, possibly leaving bruises or blisters. Scratching the skin may also be part of the traditional remedy. This custom is believed to restore the balance of body fluids and air and to release noxious elements.

Recent political strife and an unstable economic atmosphere have necessitated the exportation of regional foodstuffs and locally manufactured goods, leaving the local people very little to choose from. Rationing and extremely high prices on the open market (e.g. 1 kg. of meat or fish may be equivalent to a worker's monthly salary) have made previously enjoyed food staples prohibitive. Consequently upon their arrival to a land where the choice of food and material possessions are abundant and affordable, inappropriate dietary choices (particularly for sucrose) have occurred.

Because we have gained insight into the background of the S.E. Asian refugees, we can exercise flexibility when attempting to modify their nutritional and oral hygiene habits.

During nutrition counselling, it is important to remember that their cooking methods ensure maximum nutrient retention and include stir-frying, steaming, and simmering. Also, North American packaging methods including dehydration, freezing, and canning, may cause confusion. An otherwise common food may go unrecognized

causing them to do without. Furthermore, the common dietary ratio in S.E. Asia is to consume 10% protein, 6% fat, and over 80% carbohydrate mainly in starch form. However, it is possible to relate Canada's Food Guide to their traditional foods. The four food group approach can easily be adapted to their food choices as follows:

MILK & MILK PRODUCTS - An intolerance to milk, caused by a primary lactose deficiency, exists in the general population. A desire for sweets has developed because of the necessity to consume sweetened canned milk which is emptied more slowly by the stomach and thus does not produce the symptoms of cramping and diarrhea. Therefore, a common practice among new refugees is the addition of sugar to the milk of infants and children. Tolerance for cheese and yogurt, which were relatively unknown in Vietnam, is possible because of the breakdown of the lactose during processing. Acceptability of these products has been gaining steadily and can contribute significantly to their calcium intake. Soyabean and soyabean curd provide a satisfactory source of calcium, if used in large amounts. Recent evidence suggests that the lactose deficiency may be an adaptation to lack of milk in the diet after infancy rather than resulting from a congenital condition.⁶

MEAT & MEAT ALTERNATIVES - South East Asians usually consume small amounts of protein, primarily from fish, as well as some pork and chicken. Soyabean and soyabean curd are frequently used as a protein source, as are other types of beans or legumes, for example red and mung. Although these are incomplete proteins when used alone, in combination with rice, the proteins compliment each other and become complete. Peanut butter and eggs, expensive, scarce commodities in South East Asia, are gaining acceptance here.

FRUITS & VEGETABLES - Fresh fruits and vegetables are familiar food and are used extensively in their diet. Common fruits eaten include bananas, pineapples, mangoes, grapefruits, and lichees. Lemons are commonly used for flavouring agents and for beverages. Fruits are either consumed ripe as a dessert or unripe as a vegetable in cooking.

BREAD & CEREALS - Bread is relatively uncommon to them. Some urban dwellers consumed french bread, a milk-free product. Bread, as we know it, is being well accepted. Other starchy foods include rice, chinese noodles, and rice papers used to wrap vegetables and meat morsels.

In addition to the foods referred to in Canada's Food Guide, the following are used widely and contribute significantly to their diet:

FATS, SUGAR, SAUCES, AND BEVERAGES - Fats contribute approximately 6% of their total calories versus 35-40% in the typical North American diet. Although Vietnamese abhor greasy, fatty foods,

they use coconut and peanut oil, as well as pork fat, in stir-fry preparation. Sugar is used in cooking as a seasoning to heighten and distinguish flavours. Nuoc Mam a fermented fish sauce, is used extensively and contributes protein, iodine, and fluoride to the diet. Traditional beverages are tea, herbal teas, sugar cane juice, lemonade, soft drinks, and beer. Soft drinks are gaining rapid popularity in Canada.

Expenditures for food, clothing, and living quarters are of the highest priority now. Consequently dental care, outside of the public health realm, may be postponed indefinitely.

Initial impressions of our sophisticated dental facilities may produce anxiety and fear. Only urban people have had regular contact with the dental situation and may be familiar with dental equipment such as the x-ray machine. Rural people visit a dentist only when necessary. Judging from what we have observed, dentistry in the country is at a first-aid level. Do not be misled by the appearance of comprehensive dental work. We have observed that extensive scaling is required by adults who otherwise appear to have had complete dental work. Preventive dentistry, as we know it, is not practised.

Patient education in the area of preventive dentistry is our most valuable tool. Keep it specific and keep it simple. Introduce one concept at a time. Visual aids in the form of diagrams and pictures and the "show, tell, do" method will assist you in conveying your message effectively. Where possible, use an interpreter to maximize feedback. The refugees' appreciation for your concern will make your attempt to meet this challenge worthwhile.

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Many thanks to Ms. Margie Taylor; Mr. Tony Falsetto, Indo-Chinese Refugee Task Force for Canadian Employment and Immigration; Project 4000, Ottawa and individuals of S.E. Asian community for their assistance and information.

NON VERBAL BEHAVIOUR IN THE DENTAL OPERATORY

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Nonverbal communication is a term encompassing a wide range of behaviours which we all use to convey messages in addition to those messages that we convey with words. These wordless messages serve to set the emotional tone of a communication and we can decode them to provide ourselves with two types of information.

1. Information concerning the individual - eg. idiosyncrasies derived from personality, race, culture.
2. Information concerning the relationship or interaction in which we are involved eg. feelings and reactions of the other person, feedback cues for verbal messages.

The relationship between the dental hygienist and the patient is an unusual kind of dyadic (two-person) interaction, differing from other dyadic interactions in many respects. The two people involved have to be very close together, one person usually lies down with the other above or behind him and one person places his fingers in the mouth of the other. One of the most important differences between the hygienist-patient interaction and other everyday interactions is that, for considerable periods of time, this interaction relies solely upon nonverbal communication because the nature of the treatment precludes speech.

Nonverbal communication has sometimes been called a body-language and, as is the case with all languages, it has rules. Each signal or combination of signals has a specific meaning and there are appropriate and inappropriate ways of behaving in specific situations. In normal interactions we are

rarely conscious of directing our behaviour according to body-language rules. In the same way as grammatical or idiomatic errors are noticeable in verbal communication, we become acutely aware of the rules of nonverbal communication only when they are broken or disturbed.

Some of these nonverbal rules are outlined below with brief examples of their operation within the special and unusual interactions occurring in the dental operatory.

PROXIMITY

In most interactions some degree of proximity is involved. The actual distance chosen by people depends upon such factors as the intimacy of their relationship, their ages, sexes, racial background, as well as upon the circumstances of the physical environment.¹ As a general rule, close proximity is acceptable only in intimate relationships and tends to produce a rise in anxiety or tension when it occurs in other interactions. In interactions which are professional consultations, the appropriate proximity is approximately one and a half metres (3 to 4½ feet). However, dental consultations, where treatment is involved, may necessitate distances of as little as 20 centimetres (8 inches), thus producing an increase in discomfort and tension for both parties. It is advisable to ensure that such close proximity is used only when necessary and that the most acceptable consultation distance is adopted for interviewing and discussion of preventive programmes or treatment needs.

BODY ORIENTATION

Usually we orient our bodies so that we face one another or so that we can look at one another by turning our heads through no more than a 45 degree angle. We adopt more direct orientations to people that we like than to those we dislike. In consultations, an angled position of chairs is preferred, with the corner of a table or desk between the chairs, if possible.² In the dental operator, the positions of the dental chair and the operator's chair may prevent adoption of the preferred orientations, thus posing difficulties for speech communication.

While the 11 o'clock to 1 o'clock positions may be necessary for dental treatment, the hygienist should be careful to adopt the 7 o'clock to 10 o'clock positions for therapeutic counselling or conversation.

POSTURE

In communication people usually adopt postures which are congruent with or similar to each other with respect to relaxation, amount and direction of leaning, and placement of limbs.³ Incongruent postures indicate special circumstances in the interaction eg. differences in status or emotional problems. Supine, inferior, open postures, such as are required of the dental patient during treatment, are usually adopted only in intimate relationships. This type of posture is markedly incongruent with that of the hygienist and may cause the patient to experience an increase in tension or feelings of vulnerability, even though he is aware that this posture facilitates efficient treatment. It is important that the patient is able to adopt a congruent sitting posture for conversation or counselling with the hygienist. It is particularly important to adopt congruent postures with children who may suffer because of their smaller body size. Open positions of the arms can communicate concern for the other; forward leaning postures can indicate interest or attention. Tense hand and foot positions are good indicators of anxiety or may provide the hygienist with information about the patient's pain experience.

FACIAL EXPRESSION

Facial expression is a fast-moving and complex mode of nonverbal communication and many of its rules are, as yet, imperfectly understood.⁴ While fear, dread, and physical pain may be identified by facial expression, it is worth noting that the patient's use of facial expression as a communication mode may be curtailed by the necessity of keeping his mouth open and his head still during dental treatment. During treatment, the sensitive operator may gain more reliable information

about such emotional experiences from observation of other physical indices of anxiety or stress, such as body tension in hands or feet.

EYE MOVEMENT

Eye movement is another fast-moving and complex nonverbal mode. Findings indicate that we look in the direction of our interest, that we look less at people we like or dislike than we do at people to whom we feel neutral, and that we look less at people in close proximity. Eye movement also provides feedback cues for verbal communication.⁵ Patients who look fixedly at the dental hygienist during treatment, thus breaking the rule of looking less in close proximity, may do so because the hygienist talks a lot, because they have nothing else interesting to look at, or because their anxiety provokes them to look for feedback in the hygienist's facial expression. The problem can be circumvented by placing something of visual interest on the operator's ceiling, (eg. an Escher print⁶) talking less compulsively, and speaking only to provide information about treatment progress.

BODY CONTACT

Body contact is bound by strict rules of propriety in all cultures. As a general rule, contact within the knee to shoulder area and, to a lesser extent, the head is permissible only in intimate interactions.⁷ In all other interactions, with the special exception of some adult-child interactions, such contact implies a demand for intimacy or a threat and, in either case, produces an increase in tension or anxiety. Contact between the hygienist's hands and the patient's oral area is implicitly understood to be part of the contract between the patient and the hygienist for the duration of their professional interaction. However, dental hygienists may develop the habit of wiping debris from their instruments on the napkin protecting the patient's clothing. Such actions are felt by the patient as contact within the taboo breast area and should be avoided. (Fig. 1)

Dental hygienists are committed to the ideal of prevention of dental disease and are thus well aware of the necessity of developing positive attitudes within the community which support this ideal. Nonverbal communication provides us with the means of projecting the quality of trustworthiness and of improving our persuasiveness, both necessary in chairside preventive education. It has been shown that effective persuaders project the quality of trustworthiness by utilization of the following nonverbal signals in their interpersonal communication.⁸ They choose distances of approximately one metre (3 to 4 feet) from their addressee rather than greater distances. In a seated position, this is accompanied by a smaller angle of

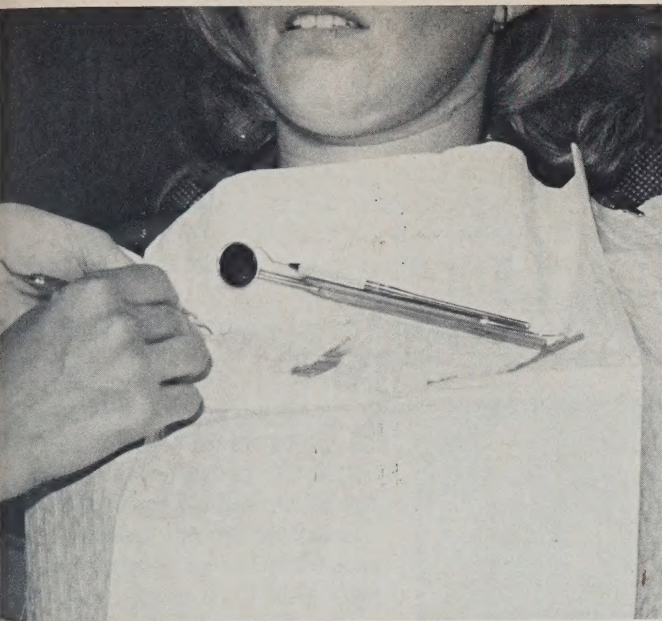


Fig. 1. The habit of wiping debris from your instruments on the patient's napkin should be avoided.

lean, more direct orientation towards the addressee, use of frequent eye-contact, liberal smiling and head-nodding, and adoption of a moderate degree of body relaxation.

Attention to the nonverbal aspects of our communication can improve the emotional tone of interactions with patients. Sensitive adjustment of nonverbal communication to meet the special problems posed by the operatory environment may enhance rapport between patient and hygienist - a result which benefits the hygienist as much as it does the patient.

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By the turn of the century most dentists were no longer common tradesmen, but educated professionals; and the Canadian Dental Association was founded so they could share their skill, their knowledge and their concern for the integrity of the profession. Although more and more toothpastes were now being introduced, Colgate's reputation as an effective dentifrice was already well-established. More and more dentists were recommending Colgate to their patients.



As the century progressed, many biological and technical advances were made in the field of dentistry, one of the most significant of which was the increasing use of fluoride to reduce the incidence of cavities. The first fluorides to be used by dentists were simple in composition: sodium fluoride and stannous fluoride. But the Colgate company was developing its own improved fluoride, MFP (sodium monofluorophosphate). Research showed that this fluoride reacts with the tooth enamel to form fluorapatite*, which makes the tooth more resistant to decay. Tests also showed that staining of teeth, which can be a problem with stannous fluoride, isn't a problem with MFP. Reformulated Colgate with MFP was so effective that it was one of the first toothpastes to receive official recognition from the Canadian Dental Association†. And Colgate** with MFP is still one of the most effective toothpastes in the fight against cavities today.



*Ericsson, Y. The mechanism of the monofluorophosphate action on hydroxy apatite and dental enamel, Acta Odont, Scand., 21, 341-358 (1963).

† Colgate Toothpaste contains sodium monofluorophosphate, which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care.

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A DENTAL CHAIR MODIFICATION FOR CHILDREN

DALE SCANLAN, R.D.H.

Mrs. Scanlan is a dental hygienist, Division of Dentistry, Children's Hospital of Eastern Ontario, 401 Smyth Road, Ottawa, Ontario K1H 8L1. Among other activities, she is the CDHA Community Dental Health Chairman.

There has been a trend away from the paedodontic dental chair over the past several years. In addition, it is not practical for general practitioners to purchase expensive and seldom-used children's dental chairs. This paper outlines the advantages, construction techniques and uses of a variant of the bean-bag chair introduced some years ago¹ and a paediatric dental chair recently described by Ruby².

The bean-bag offers considerably fluid maneuverability to accommodate to different body shapes and sizes. It offers comfort, stability and security to the paediatric patient who may feel he is in danger of falling from some models of modern dental lounge chairs. The beans can be localized under the neck to assist head stability for the clinician. The bag also gives full support to the small of the back and can be shaped and puffed up under the legs to keep them in a flexed position as shown in figure 1. Physiotherapeutic principles hold that the flexed position reduces skeletal muscle tension. This in turn assists children who have difficulties with jaw muscle control³. The comfort and stability aspects are appreciated by patients who have been premedicated or are involved in conscious sedation therapy, as the reduction of tension and stress is maximized.

CONSTRUCTION

Produce a paper pattern of your dental chair three to four cm. in from the edge. Figure 2 shows the bag produced for a Dental-Eze chair and used for handicapped children at the Children's Hospi-

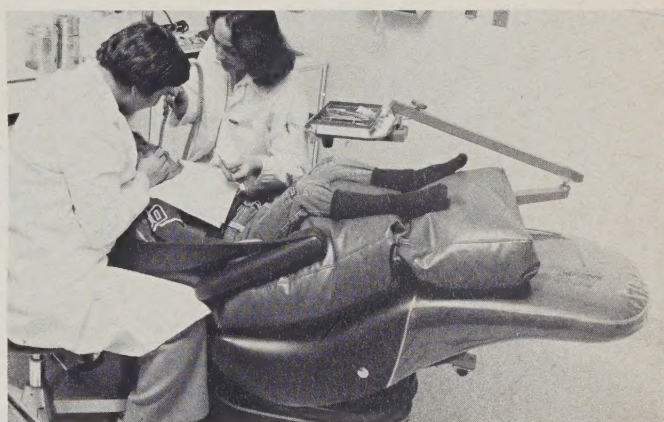


Fig. 1. Removable bean-bag in use to maintain the patient in a flexed position of stability.

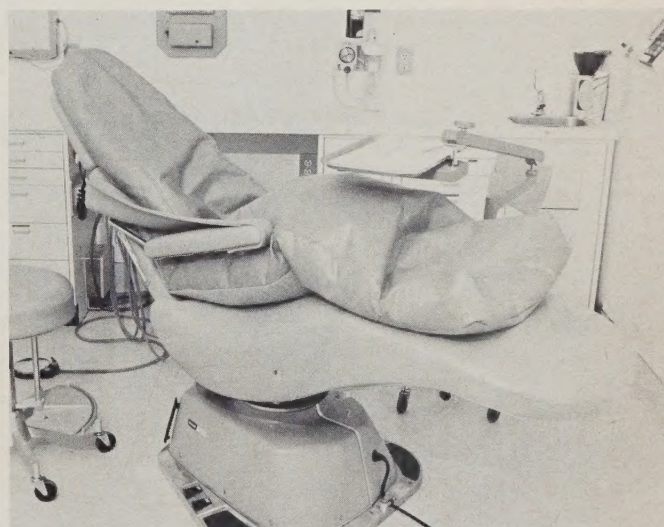


Fig. 2. Bean-bag in place at Children's Hospital of Eastern Ontario.

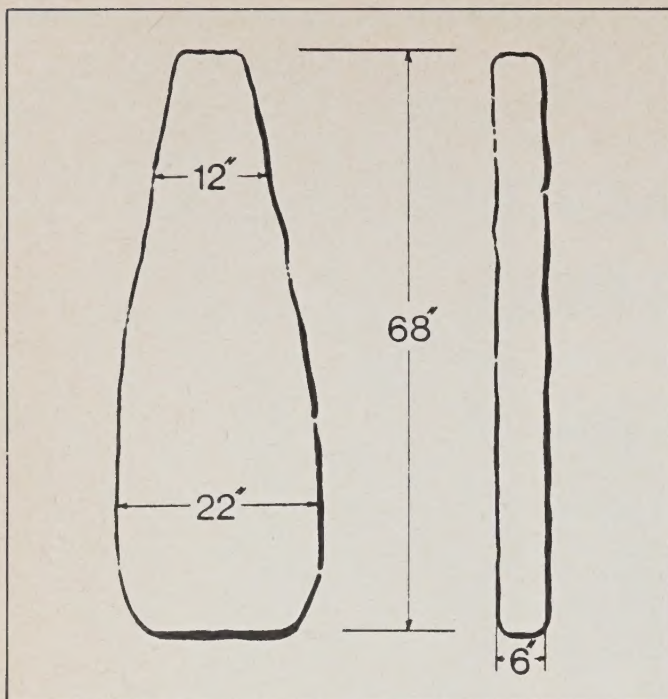


Fig. 3. Dimensions of bean-bag to fit Dental-Eze chair. Velcro straps may be added for additional stability.

tal of Eastern Ontario, Ottawa. The main portion of the bag is constructed of naugahyde. This material is strong, keeps its shape, and can be easily cleaned. It provides the added advantage of protecting the dental chair from scuff marks from children's shoes. The bottom of the bag is cloth chosen to reduce slippage and allow air to escape. This also prevents the seams from ripping and

speeds the set of the styrofoam beads. To eliminate the beads' possible escape and to facilitate changing the bead content, two zippers are provided to stabilize the bag on the dental chair. Approximately three cubic feet of styrofoam beads are appropriate for the bag shown in figure 3.

SUMMARY

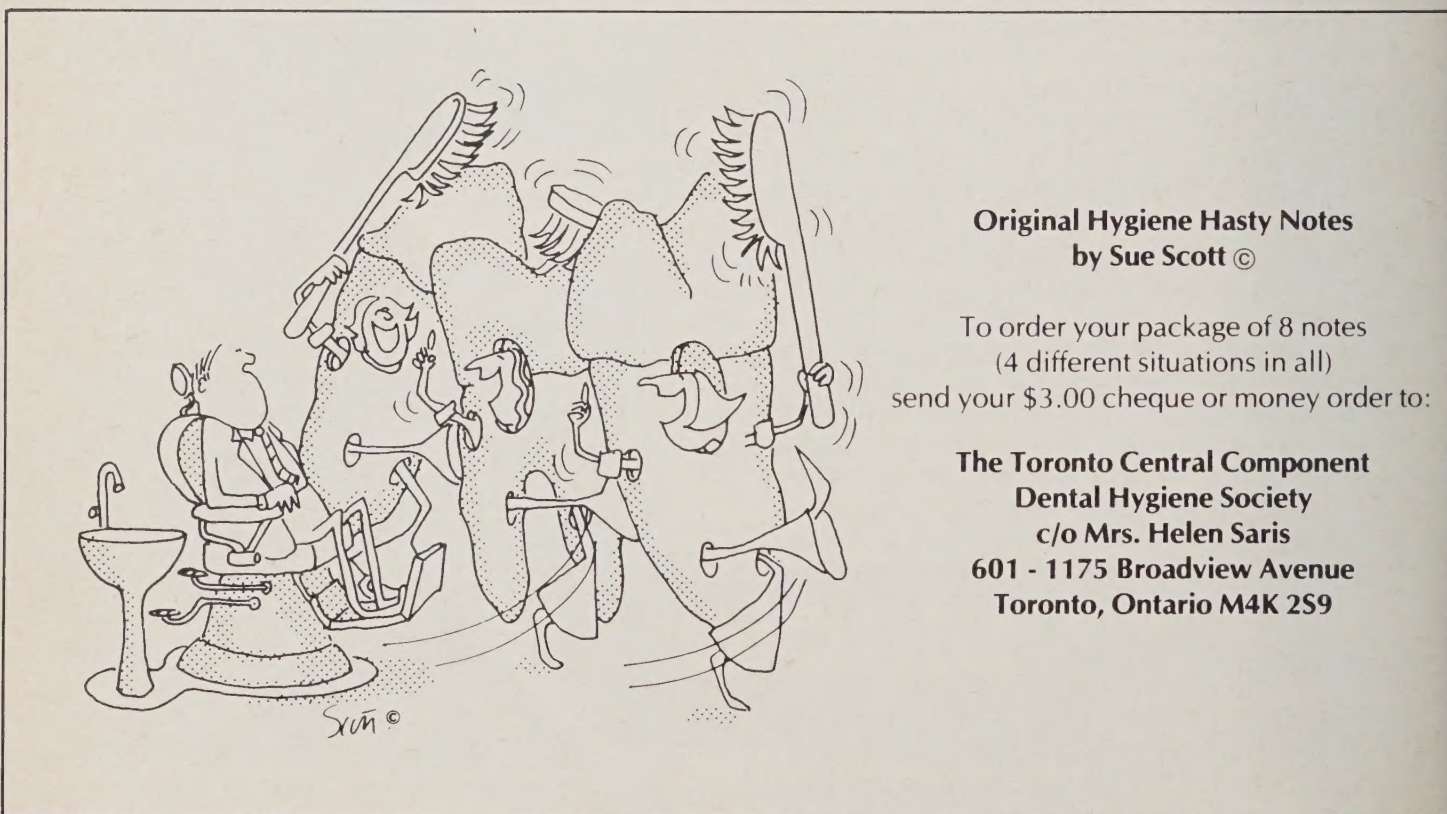
This device provides stability and gentle restraint to the very young active child. It is a valuable adjunct to dental care of the physically handicapped dental patient both paediatric and adult. Finally, it protects the chair surface and serves as a comfortable cushion for patients undergoing long dental procedures or who are being treated while under conscious sedation therapy.

The bean-bag was constructed by Mr. J. Glancy, Nu-Style Upholstering, 265 Chine Drive, Scarborough, Ontario M1M 2L6 and is available on a special order basis.

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ABSTRACTS

AGGRESSIVE CURETTAGE

Subgingival curettage is recognized as an effective treatment for inflammatory periodontal disease if initiated soon after diagnosis. A drawback of conventional curettage is that the procedure must be repeated every four to six months, and patients repeatedly show the same pocket depths on recall visits. A modified form of conventional curettage, termed aggressive curettage, was established to remove the col interproximally, leaving the area more accessible for cleansing.

The patient is anesthetized using an infiltration technique supplemented with interdental papilla injections to firm the tissues and aid hemostasis. Conventional subgingival curettage is done on the facial and lingual surfaces. A Prichard 1-2 curet is used to remove the papilla containing the col. The Prichard curet removes all interproximal tissue coronal to the crest of the facial and lingual plate of bone. No attempt is made to reshape gingival tissues or to remove tissue to reestablish correct gingival architecture. However, because the greatest pocket depth occurs in this area, papillectomy is crucial. Conventional curettage and root planing are then accomplished interproximally.

Patients are seen a week postoperatively to evaluate healing and monitor plaque control. Patient education should emphasize cleaning of the open abrasure spaces and freeing the area of food and plaque. Patients are then assigned a 3, 4, or 6-month recall visit based on their level of responsibility.

Forty patients were treated with aggressive curettage and returned after either four or six months. At this time, interproximal pocket depths had been reduced by at least 2 mm, and no increase in pocket depths had occurred

on the facial and lingual surfaces of the gingiva. At the 12-month recall visit, 38 of the 40 patients required only scaling and prophylaxis; the other two required conventional curettage in isolated areas. Of the 40 patients, 100% extended the curettage interval by six months and 95% extended curettage by two visits.

It is not suggested that aggressive curettage replace conventional curettage, a conventional curettage has been shown to improve the tone of gingiva and reduce edema and inflammation. Rather, aggressive curettage should be recognized as a viable adjunct because it aids in cleansing of the interproximal area. Aggressive curettage could be used in the treatment of some periodontal patients, and, with the continually expanding role of the dental hygienist, this technique should be incorporated into the daily routine along with scaling, root planing, and conventional curettage. [Green, Margaret Lappan, and Green, Barry Lee. Denbigh Professional Park, Suite 805, 606 Denbigh Blvd., Newport News, Va 23602. Aggressive curettage. *Dent Hyg* 53(9):409-412, 1979].

GINGIVITIS IN PREGNANCY

An increase in gingival inflammation occurs between the 14th and the 30th weeks of pregnancy whether there is a decrease in the amount of plaque in the dentogingival junction. Decided increases in the plasma levels of estradiol and progesterone are thought to be related, but a direct association could not be demonstrated in this study.

The Gingival Index and the Plaque Index of 26 pregnant women were scored at the 14th and 30th weeks of pregnancy. Plasma levels of estradiol and progesterone also were measured. As part of the main investigation (of which

the hormone level-gingivitis investigation was a part), the patients were given oral hygiene instruction. The effects of this were seen in a drop in the mean Plaque Index from 1.17 at 14 weeks to 0.98 at 30 weeks. At the same time there was an increase in the mean Gingival Index from 1.14 to 1.32. This confirmed the observations of Loe (1965) that some factor in addition to plaque accumulation is involved in the exacerbation of gingival inflammation during pregnancy.

The mean estradiol plasma level in these patients rose from 5.3 ng/ml at 14 weeks to 11.12 ng/ml at 30 weeks, and the mean progesterone level rose from 19.17 ng/ml to 66.16 ng/ml at the same intervals.

A comparison of the differences in the hormonal levels at the 14th and 30th weeks with the differences in the Gingival Index showed that there was no correlation between the increase in the amount of circulating hormone and any increase in the Gingival Index scores.

If progesterone or estradiol were acting directly on the gingival tissues, one would expect that a greater increase in available hormone would be reflected by an increase in the amount of clinical inflammation; however, this was not apparent, and it would not be logical to deduce a cause-and-effect relationship. This is not to imply that the raised hormone levels are irrelevant, but that any effect is most likely an indirect one, in view of the complicated endocrinology of pregnancy. [O'Neil, T.C.A. University of Sheffield Dental School, Wellesley Rd., Sheffield, England. Plasma female sex-hormone levels and gingivitis in pregnancy. *J Periodontol* 50(6):279-282, 1979].

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PROOF?

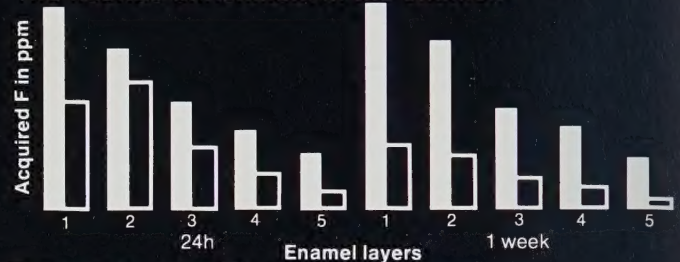
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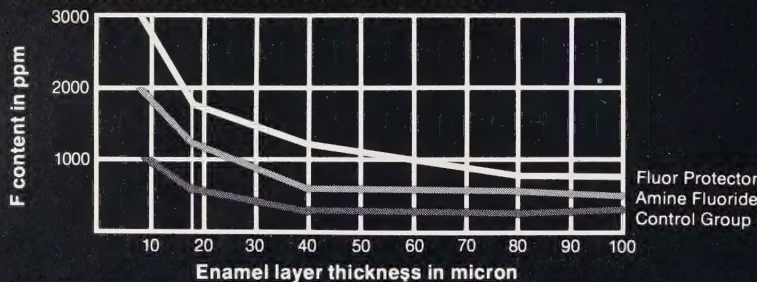
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CDHA Guide to Submission of Manuscripts

Manuscript:

All manuscripts submitted for consideration for publication should be typed on standard (8½ x 11) paper, double-spaced, with a margin allowance of at least one inch. Three copies should be sent to the editor, and the manuscript must not be submitted to another publication while under review. A title page should be included stating the title of the paper and the author's full name, degree, and position.

Illustrations:

Illustrations must be clearly defined and suitable for reproduction on a reduced scale. Each picture should include a legend and should be marked in numerical order. Graphs and drawings should be drawn in Indian ink on white paper. Photographs must be glossy prints.

Length:

The preferred length of a paper is 8-10 typed pages or 3000 words including references. Space for illustrations should be considered in the length.

Subheadings:

It is suggested that subheadings be used within the paper for the reader's benefit.

References:

References should be lined up numerically. References to journal articles should be made as follows: last name of author followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, first and last pages of article to which you refer, and year.

Example:

Bell, G. Role of the dental hygienist in restorative dentistry. *Dental Health* 40: 139-141, 1973.

References to books should be made as follows: last name of author followed by initials; title of book with initial letters of all words, except connecting words, capitalized; publisher; city of publication; year of publication; page or pages to which you refer.

Example:

Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

Notice of Acceptance:

Manuscripts will be acknowledged upon receipt. Authors will be notified of acceptance of their paper before publication. Rejected manuscripts will be returned.

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Les textes doivent être remis dactylographiés à double interligne, sur papier 8½ " sur 11"; toutes les marges doivent être d'au moins un pouce. Les auteurs doivent remettre un original et deux copies et le texte doit être soumis uniquement à L'Hygieniste Dentaire du Canada. Une page frontispice doit inclure le titre du texte, les noms, qualités et titres et postes du (des) auteur(s).

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Les illustrations doivent être claires afin que leur reproduction sur échelle réduite soit possible. Chaque illustration doit être accompagnée d'une légende dactylographiée. Les graphiques et schémas doivent être dessinés convenablement, à l'encre de Chine sur papier blanc. Les photographies doivent être des épreuves glacées; elles doivent être numérotées dans l'ordre.

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La longueur des textes devrait être de 8 à 10 pages dactylographiées ou de 3000 mots y compris les références. Les espaces pris par les illustrations doivent être inclus dans ces limites.

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Les sous-titres sont recommandés afin de faciliter la lecture du texte.

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Les références doivent être numérotées. Les références à des articles de revues doivent être faites de la façon suivante: nom du (des) auteur(s) initiale(s); du (des) prénom(s), titre de l'article (seule la première lettre du premier mot doit être en majuscule); nom au long du journal, numéro du volume, pages de l'article, année.

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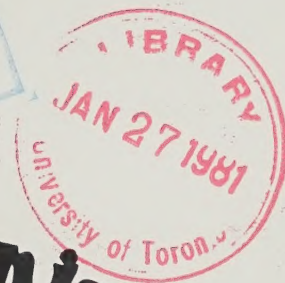
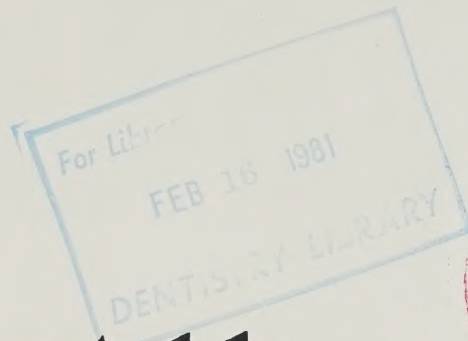
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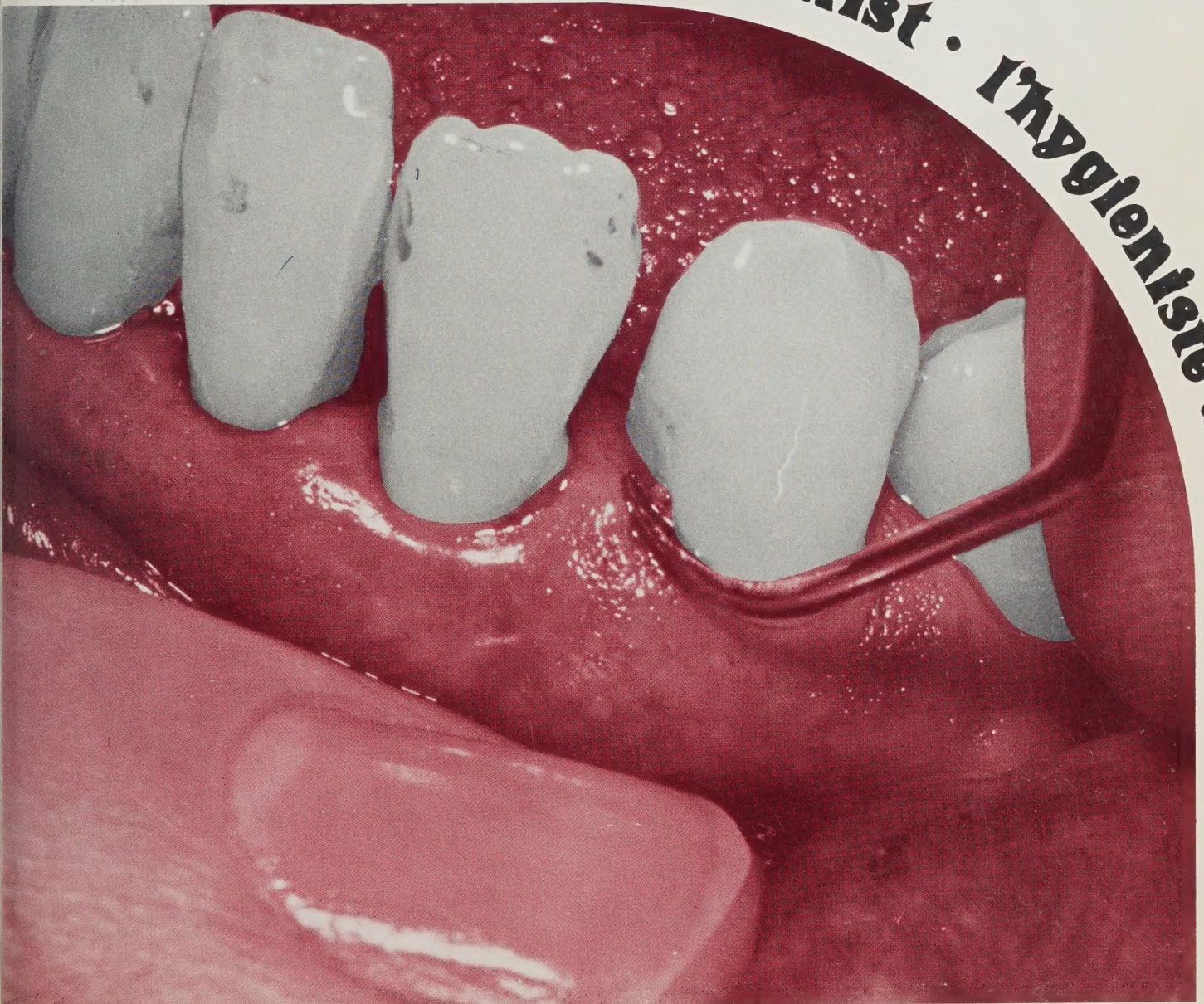
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THE CANADIAN DENTAL HYGIENIST L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1980 HIVER

VOLUME 14, NO. 4

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$15.00 per year in Canada and \$22.50 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

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Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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C.D.H.A. . . . Consider the Connections

When placing a telephone call, connections permit the other party to hear your voice. To be heard by your professional association, a number of CONNECTIONS must be made.

THE HISTORICAL CONNECTION: The Canadian Dental Hygienists' Association has grown from 287 to 2,200 since its founding in 1967 by interested hygienists from Alberta, Manitoba, Nova Scotia and Ontario. It now includes hygienists from all ten provinces and the Northwest and Yukon Territories. Our membership categories have also expanded to include hygienists residing out of Canada as well as individuals from other dental auxiliary groups. Also, throughout the years, internal and external working relationships have been established and strengthened. As the Association has evolved to meet the changing needs of Canadian hygienists, it has assumed a greater role in increasing the awareness of the public on dental health matters, as well as gaining recognition as the representative body of the dental hygiene profession.

THE EXPERT CONNECTION: Whatever aspect of dental hygiene employment you are involved in, the Canadian Dental Hygienists' Association has fellow professionals who are willing to share their knowledge and expertise with you through journal articles, continuing education programs, and scientific presentations held in conjunction with annual meetings. These learning experiences are invaluable in the development of problem solving skills and the advancement of professional knowledge and techniques.

THE CASH CONNECTION: Through

financial planning, the Association strives to increase the number of services that are important to you as an individual dental hygienist. The first of these is the Group Wage Loss Insurance plan for members. Secondly, the Association is playing an important role in having the Unemployment Insurance legislation changed so that hygienists working less than twenty hours in one office will still be eligible to receive benefits. It is hoped that these changes will take effect in January 1981. In the area of employment portability, the Association has established a task force to investigate and make recommendations relating to increased standardization of provincial practice acts so that hygienists moving from one area to another will be able to resume practice with more ease. The Association also has established a mechanism for providing financial assistance to provincial constituents for special projects such as preparation of briefs to governments and licensing bodies, leadership workshops, and provincial representation at national meetings.

THE ELECTRONIC CONNECTION: The Association is currently developing a series of computer programs which will provide important statistical information. This internal data bank will be of invaluable assistance in planning and implementing committee activities including Manpower and Utilization, Education, Continuing Education, Membership and Convention. This data will also be available to the constituencies to assist in meeting provincial needs, and will continue to be handled responsibly to insure its confidentiality.

THE INTERNATIONAL CONNECTION: Through representation on the International Liaison Committee on Dental Hygiene and participation in International Symposia, the Association has an opportunity to share information and knowledge with hygienists from many countries around the world. In 1979, Canada hosted the biennial International Liaison Committee meeting and currently the Chairman of this committee is a Canadian dental hygienist. In July 1981, Canadian hygienists are invited to attend the 8th International Symposium on Dental Hygiene which will be held in Brighton, England.

THE MEMBER CONNECTION: This connection is perhaps the most important one. It is the one between YOU and THE ASSOCIATION. This should be a mutual relationship, built upon an awareness and understanding of each others needs. Your National Executive and Appointive Officers, Special Representatives, Committee Chairmen, and Provincial Directors are listed in each issue of the Journal. Please identify your interests and concerns to them. With your membership, the Association can continue to meet the needs of Canadian dental hygienists and liaise with other dental health professionals for the improvement of the dental health of Canadians.

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OUTSTANDING SERVICE TO CDHA RECOGNIZED

The CDHA Board of Directors have honoured Marjorie Dimitri of Vancouver, B.C. and Ailsa Wood of Toronto, Ontario with life membership in the Canadian Dental Hygienists' Association in return for their outstanding contributions to the growth and enhancement of the CDHA. Both recipients have been active in the association for more than ten years and have held office at the provincial and national levels.

Among many other activities, Ms. Dimitri has served as president, delegate to the board of directors, editor, speaker for the board, chairman of the long range planning committee and nominations committee, and has represented dental hygiene as a member of the Royal College of Dental Surgeons of B.C., the C.D.A. Council on Auxiliary Services, and the C.D.A. Council on Health Care. Marjorie is currently functioning as an advisor to the British Columbia Dental Hygienists' Association's executive council and board of directors and as an editorial advisor to *The Canadian Dental Hygienist*. Because of her constitutional expertise and extensive background in association activities, Marjorie has been appointed the Standing Officer on CDHA Organization and Procedures.

Ms. Wood has been instrumental in controlling financial matters for our association through her contributions as CDHA treasurer and bookkeeper. Ailsa has also served on convention committees at the provincial and national levels and has been a member of the Royal College of Dental Surgeons of Ontario's Committee on Dental Hygiene. In addition to retaining her position as CDHA Bookkeeper, Ailsa is the First Vice President of the Ontario Dental Hygienists' Association.

Both Marjorie and Ailsa have proven their effective leadership abilities in association operations and have displayed notable dedication to the profession of dental hygiene. CDHA life membership is the highest distinction bestowed upon a member for recognition of services, and this honour has only been presented to two other members in the past: Jo Gardner in 1975 and Patricia Johnson in 1977.



Marjorie Dimitri

CFDE NOW ACCEPTING APPLICATIONS FOR TEACHER TRAINING FELLOWSHIPS

March 1, 1981, is the deadline for filing applications for teacher/researcher training fellowships from the Canadian Fund for Dental Education for the 1981/82 academic year.

Forms and additional information may be obtained from the Dean's office in any Canadian dental school or the Canadian Fund for Dental Education, Suite 205, 44 Eglinton Avenue West, Toronto, Ontario M4R 1A1.

Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry, dental hygiene, or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry or a school of dental hygiene. Preference will be given to those applicants who will return to a *full-time* teaching/research position. Minimum commitment in this regard is two days per week. A fellowship recipient is obligated to give a year's full-time service to a school for each year of full fellowship support, or a year's half-time service for each year of half fellowship support. In rare instances where teaching commitments are not fulfilled, fellowship awards must be repaid in full.

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Ailsa Wood

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Preference will be given to applicants who begin CFDE supported training before, or less than five years after, starting their teaching/research appointment.

The value of the fellowship will be determined annually by the Advisory Committee on Fellowship Selection and the Board of Trustees.

It is understood that CFDE fellowship recipients will have to obtain additional support from other sources to completely finance their studies.

MEMBERSHIP FEES INCREASED

As a result of increased committee activities and escalating costs in almost every area of Association functioning, the Annual CDHA membership fees have been raised as follows:

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June 9, 1980

Dear Mr. Axworthy:

I am writing this letter on behalf of the Canadian Dental Hygienists' Association regarding the minimum insurability provisions under the Unemployment Insurance Program. I have seen a copy of your proposed changes which you announced on April 16, 1980, and find them very encouraging; however, I do have some concerns and questions.

One of the key problem areas in the present program for dental hygienists is the fact that the minimum insurability provision is for each individual employer. Dental hygienists who work full time may be employed two days for one dentist, two days for a second dentist, and one day for a third dentist. Even though they are employed full time, under the present law, they are ineligible for unemployment insurance because they do not work twenty hours for any one employer. Does your new proposal delete this limitation that presently exists?

Another question that I have about the new proposal is that your new basis for insurability is 15 hours of work in a week, or one fifth of the maximum insurable earnings. At present, the maximum insurable earnings are \$290.00 per week, and one fifth of this is \$58.00. Are you proposing that if someone earns \$58.00 or more in a week, one is therefore insurable?

Could you please clarify these questions and concerns for me at your earliest convenience?

I am enclosing a copy of the policy statement of the Canadian Dental Hygienists' Association concerning "Unemployment Insurance and the Dental Hygienist" which was approved by the board of directors in January 1980. It explains our position and I hope it will help you to understand our concerns.

Sincerely,
(Mrs.) Elaine Good
CDHA Manpower &
Utilization Chairman

August 12, 1980

Dear Mrs. Good:

Thank you for your letter of June 9, 1980, regarding the unemployment insurance minimum insurability requirements.

I appreciate your Association's deep concern over this matter. As you are aware, I have proposed a regulatory change so that an individual who earns either one-fifth of the maximum weekly insurable earnings or works 15 hours

per week would be eligible for coverage. The requirement to work 15 hours per week will be used only if an individual is unable to meet the requirement to earn one-fifth of the maximum weekly insurable earnings.

Concerning the situation of multiple employers, we have determined that coverage will have to continue to be assessed on the basis of an employee's work for each individual employer. Under the legislation, it is the employment that is considered insurable, not the person actually doing the work (for example, the fact that he/she may work for more than one employer cannot be a determining factor when insurability is being assessed).

The above mentioned aspect of the insurability requirements may not pose any serious difficulties for the members of your Association. Before January, 1979, minimum insurability was determined by a specified amount of weekly earnings. In 1978, this amount was, in fact, one-fifth of the maximum weekly insurable earnings. From the representations I received from dental hygienists across Canada, it would seem that before January, 1979, they were insurable, but that afterwards, they were not. As

the change I am proposing is structured in part on the same basis as the pre-1979 legislation, your Association's membership is likely to find the proposed new minimum insurability requirements much more acceptable than the present requirements.

In reply to your specific question, if the proposed change was implemented in 1980, the actual dollar value of the requirement to earn one-fifth of the maximum weekly insurable earnings would be \$58 per week (1/5 of \$290). The earliest practical date for changing the regulation, however, is January 1, 1981. An earlier implementation would create serious administrative difficulties for employers and Revenue Canada Taxation.

I trust my comments are satisfactory.

Yours sincerely,
Lloyd Axworthy
Minister of Manpower
and Immigration

Elaine Good would like to thank all the hygienists who wrote to the federal government last year, expressing their concern about this issue.

DENTAL RESEARCH OFFICER

Saskatchewan Health, Saskatchewan Dental Plan, Regina requires a Dental Health Research Officer who will be responsible for reviewing all dental health education and preventive procedures used in a children's dental program, and for researching new or alternative procedures which might be implemented; and for developing, testing, and cataloguing dental health education materials; and will act as a resource person for a large clinical staff. Other duties will include analysing data system outputs to monitor the progress of the Dental Plan in meeting its objectives. Literature reviews and report writing on various dental topics will be required.

Applicants must have a university degree in Dental Hygiene supplemented by post-graduate training in Dental Public Health. Superior writing skills and some experience in dental health research is required. Travel within the province of Saskatchewan is involved.

For information and application forms, write to: Director, Saskatchewan Dental Plan, Department of Health, 3475 Albert Street, Regina, Saskatchewan, S4S 6X6, Phone: (306) 565-4580.

Salary: \$22,392 - \$27,576 (Research Officer 2)

Competition: 111012-0-6553 (Closing: As soon as possible.)

Forward your application forms and/or resumes to the Saskatchewan Public Service Commission, Regina, Saskatchewan, S4S 5W6, quoting position, department and competition number.



MEET YOUR CDHA SECRETARY

Mary Anne Wailing is the 1980-81 executive council secretary. Mary Anne graduated from the University of Alberta in 1965 and has worked in private practice in Prince George, B.C., Saskatoon, and in Watrous, Saskatchewan. Mary Anne has chaired the Saskatchewan Dental Hygienists' Association's education and recruitment committees, and presently is the Program Head of the Dental Assistant Program at the Kelsey Institute in Saskatchewan. For the remainder of her term of office as CDHA secretary, Mary Anne will be submitting executive council news reports to our journal's "What's Happening With" section.

WHAT'S HAPPENING WITH . . .

- **EXECUTIVE COUNCIL APPOINTMENTS:** Pat Grant, CDHA president-elect, has been directed to revise the Code of Ethics. Diane Girardin, CDHA Immediate past president, has been directed to draft a manual for convention planning purposes. Cas-seda Parsons, Membership Chairman (B.C.), has been requested to develop a national symbol or logo for CDHA. Cara Tax has been appointed Chairperson for Student Membership and will also be responsible for organizing student table clinics.

CORRECTION

Please note the following misprint in the report on British Columbia's Orthodontic Module for certified dental assistants and registered dental hygienists published in volume 14, no. 2 of *The Canadian Dental Hygienist*. The statement "Each course consists of eight three hour Saturday sessions" should have read "Each course consists of eight three hour sessions held Monday and Wednesday evenings and two eight hour Saturday sessions".

LOST HYGIENISTS

The following hygienists have been "lost" from C.D.H.A. records for a number of years. If anyone has any information such as a permanent mailing address, name change, province or state of residence, or failing this, a friend or classmate who may assist me in this search, please contact me at the following address:

Mrs. Dorothy Phillips,
Locator, C.D.H.A. Records,
R.R. #1, Site 118, Comp. 10,
Qualicum Beach, B.C. V0R 2T0.

In addition, I request a volunteer from every class of dental hygiene graduates to serve as a contact person.

University of Alberta

Gayle Brooks
Janice (McLeod) Creason 1969
Gloria (Goudreau) Francoeur 1965
Diane (Nelson) Reece 1964
Arlene (Apperley) Smith 1968

University of Manitoba

Helen Fox 1968
Pat (Serebrin) Mezersky 1965
Jeanette Pittway
Margaret (Moran) Sorochoan 1972

University of Toronto

Irene (Kobels) Black 1956
Judy Barter
Susan (Morrow) Campbell 1968
Rochelle (Davis) Cohen 1967
Debra Crowell
Margaret (Desko) Dye
Mary (Ballantyne) Evin 1956
Marie Frey
June Fusco
B. Hennessy 1968
Susan (Chenier) Hunter 1961
Margaret (Farre) Knopping 1965
Jill (Palter) Levy 1964

Nancy (Egleman) Lipton 1959
Pamela McLeod 1975
M.L. Milkeraitis
Betty Ann Jucija Norkus 1973
Rose (Sutlin) Petlock 1956
June Popescu 1964
Diane Richardson 1966
Terri (Manera) Ross 1969
A.L. Ross
Barbara (Allen) Sinclair 1964
G. Smith
Diane (Griffith) Smith 1964
Gail (Langan) Summerhill 1965
Elaine Taft 1961
Susan Thornley 1973
Susan (Graham) Longhurst
P. McCallum
Barbara (Murray) McDowell 1962
Gunvor Voldner 1960
Linda (Haywood) Wastle 1967
Donna (Strokon) Westley 1965

Quebec

Paula Chodat
Chantal Chodat
Louise Boucher TR. 1975
Denise Dessureault EDM 1975
Marilyn Munro
Bernadette Turcotte Mais 1975
Odette Hogue St. J 1975
Michel Lachance St. J 1976
Michelaine Lauzon
Joan Levasseur Mais 1976
Denise Perrault St. J 1976
Francine Mantha (Plouffle)

University of Dalhousie

Marsha Koch 1974
Catherine Mahoney 1976
Pamela Mercer 1976
Harvey Reid
Diane Charleton

R.C.D.C.

Stan Robertson

HEALTH MINISTER BEGIN INTRODUCES INTERNATIONAL YEAR OF DISABLED PERSONS LOGO

Health and Welfare Minister Monique Bégin has made public the official logo for the International Year of Disabled Persons in 1981.

The official Canadian logo for IYDP 1981 is based on the original design presented by the French National Commission for IYDP, representing two people holding hands in solidarity and support of each other in a position of equality.

In making the logo public the Minister urged government officials at all levels, organizations, and the general public to become involved in activities for, and in support of, the Year. She encouraged use of the logo whenever possible to help publicize the theme of the Year, "Full Participation and Equality".

The main objectives of the International Year of Disabled Persons are to promote the integration of the disabled into the community and the prevention of disabling conditions.

Persons wishing to obtain information about plans for the International Year of Disabled Persons or information concerning the official logo, a reproduction of it, and details pertaining to its use should write:

IYDP
P.O. Box 1981
Postal Station C
Ottawa, Ontario
K1Y 4N9

SELF-ASSESSMENT TEST

The 1980 series of Self-Assessment Tests are provided by dental hygiene educators at the University of Alberta, Edmonton, Alberta. The fourth test reviews Dental Health Education.

When you have completed the test, turn to page 96 for the correct answers.

1. Which of the following is the ultimate goal of dental epidemiology?
a) Description of dental diseases
b) Development of indices for measuring dental diseases
c) Control of dental diseases
d) Identification of dental diseases
2. Which of the following programs should receive priority as a dental public health measure?
a) Promotion of fluoride
b) Dental health education in schools
c) Dental care programs for children
d) Topical fluoride clinics
3. According to behavioral scientists, which of the following conditions must exist before a person will take action to regain or preserve his health?
a) A feeling of susceptibility to a certain disease or condition
b) A feeling that the disease or condition would be severe if it occurred
c) A feeling that there is an action that can be taken to reduce the susceptibility or severity of the condition
d) All of the above
4. Health education has been defined as the "provision of health information to people in such a way that they apply it in everyday living". From this definition, indicate which words would be crucial for the health education process.
A. Provision of health information
B. People
C. Application to everyday living
a) A and B
b) A and C
c) B and C
d) All of the above
5. As a resource person to the teacher, you are expected to be able to provide which of the following?
A. Suggested dental behavioral objectives for specific grade levels
B. Recommend approaches for teaching that can be applied in either a subject oriented, or "core" curriculum
C. Suggested references
D. Prepare lectures on the specific topic
a) A and B
b) A, B and C
c) A, B and D
d) All of the above
6. The use of mass media in dental health education is
a) Limited in its effectiveness to influence behaviour.
b) Equally effective for all groups
c) Effective in reaching the group one desires to reach
d) Effective in gaining a specific response
7. At what time in the process of satisfying a need does a person learn?
a) Between the time that the need is realized and it is acted upon
b) Before acting to satisfy the need
c) While acting to satisfy the need
d) After the need is satisfied
8. What is the main objective of public health programs?
a) To reduce disease incidence, prevalence, mortality and debility
b) To help only the minority groups
c) To provide all types of free health services
d) To bring about balanced distribution of health manpower
9. Which of the following statements best defines the function of motivation?
a) Motivation is the setting of goals or objectives to produce learning
b) Motivation is the development of attitudes and habits
c) Motivation indicates whether goals have been achieved
d) Motivation arouses interest, maintains interest and stimulates action
10. For effective learning, goals or objectives should be established and to be most effective, what should these goals be?
a) Flexible, multiple and attainable
b) Attractive, complex and flexible
c) Inflexible, meaningful and complex
d) Attainable, meaningful and attractive

Helen Hoover, R.D.H.
University of Alberta
Division of Dental Hygiene

C.D.H.A. 1980 Board Transactions

The C.D.H.A. Board of Directors convened for the 17th Annual Session, July 12 and 13, 1980 in Halifax, Nova Scotia. The speaker for the meeting was Linda Zambolin. Members of the Board present were:

Diane Girardin, President; Marge Bailey, President-elect; Cara Tax, Secretary; Jackie Smorang, Treasurer; Barbara Hewton, Pat Robertson, Marjorie Dimitri, British Columbia Directors; Laura Mowat, Sherry Saunderson, Alberta Directors; Dianne Bryant, Saskatchewan Director; Patti Hawthorne, Manitoba Director; Linda Berry, Anne Bosy, Judy Barnes, Ailsa Wood, Pat Webb, Rosemary Bond, Ontario Directors; Lorraine Brouillard, Quebec Director; Trudy McAvity, New Brunswick Director; Pauline Murphy, Nova Scotia Director; Jean McLean, Prince Edward Island Director; Lois Bowden, Newfoundland Director.

In addition the following observers were in attendance:

Stephanie Nagle, Editor; Judy Dickey, Executive-Secretary; Pat Johnson, Sherita Clark, Chairmen, Long Range Planning Committee; Elaine Good, Chairman, Manpower and Utilization Committee; Jo Gardner, Chairman, Membership Committee; Margaret Miller, Chairman, Education Committee; Marnie Forgay, Chairman, Continuing Education Committee; Dale Scanlan, Chairman, Community Dental Health Committee; Sharon French, C.D.H.A. Representative to International Liaison Committee; Kim McGrail, Chairman, 1980 Convention Committee; Molly Moore, Chairman, 1981 Convention Committee; Barbara Ferris, Saskatchewan; Jane Cummings, New Brunswick; Shirley Gelskey, Manitoba; Roy Matheson, Canadian Armed Forces; Casseda Parsons, British Columbia; Peggy Larder, Nova Scotia; and Joanne Clovis, Alberta.

Dr. Rod Moran, CDA Past President, brought greetings from the Canadian Dental Association.

Mr. David McIntosh, Representative from Mutual of Omaha Insurance Company and Mr. Ron Berry, Insurance Consultant, presented proposals on disability and liability insurance.

The Board Meeting was preceded by a Finance Committee Meeting for those wishing to discuss the proposed budget. An Orientation Workshop for all members of the Board and Committee chairmen was conducted by C.D.H.A. Facilitators, Pat Johnson and Sherita Clark.

The following summary highlights areas of interest during the meeting:

1. Marjorie Dimitri and Ailsa Wood were rewarded for their years of dedication to the dental hygiene profession by receiving Life Memberships in the Canadian Dental Hygienists' Association.
2. An agreement will be made to modify the computer program currently used by the Ontario Dental Hygienists' Association in order to computerize the membership records for the Canadian Dental Hygienists' Association.
3. The Board of Directors voted to increase the current Membership fees (active, up \$10 to a fee of \$40; student, up \$5 to fee of \$15; Associate, up \$5 to fee of \$20; Allied, up \$5 to fee of \$20) as the current fee assessment no longer meets the expenses of our rapidly growing professional association. The last fee assessment was legislated by the Board of Directors five years ago.
4. Sherita Clark was appointed as the 1980-81 Membership Campaign Co-ordinator to facilitate the operation of a "Membership Campaign Proposal" approved by the Board of Directors to increase our present membership.
5. Provinces who have not already done so were instructed to initiate changes to their By-Laws, in the area of active mem-

bership, to coincide with C.D.H.A. By-Laws.

6. The Canadian Dental Hygienists' Association Code of Ethics is to be revised this year, and the Constitution and By-Laws will be revised before the next major printing.
7. A new C.D.H.A. Convention Manual will be drafted for convention planning purposes.
8. C.D.H.A. will now budget \$1,000 annually in support of the program of the scientific session of our national convention.
9. Continuing education is still a major goal of C.D.H.A.; therefore, the concept of a National Continuing Education Day will be continued.
10. A standing Committee or Officer on C.D.H.A. Organization and Procedures will be appointed as a resource centre/person to provide information and direction on the functioning of our National Association for all members.
11. C.D.H.A. is to send a donation to the Donelda Pilley-Gauthier Memorial Award, University of Manitoba in memory of Donelda Pilley-Gauthier, who was an active M.D.H.A./C.D.H.A. member.
12. Each dental hygiene program will be invited to send one student table clinic to the C.D.H.A. Annual Scientific Session where a National Student Table Clinic Competition will be held. First prize will be a maximum of \$300 divided between participants, plus a one year C.D.H.A. active membership and a C.D.H.A. pin for each participant. Second prize will be a maximum of \$150 divided between participants, plus a one year C.D.H.A. active membership and a C.D.H.A. pin for each participant.
13. The C.D.H.A. Education Committee will present recommendations regarding a system of upward and lateral career development for dental auxiliaries.
14. "Mutual of Omaha" Insurance Company was endorsed as the official insurance carriers of the C.D.H.A.
15. The Board of Directors are to investigate the feasibility of including the fee for liability insurance in the membership fee, as one of the benefits of membership. A decision on this issue is to be made at next year's Board meeting in Calgary.
16. A brief is to be presented to the Canadian Dental Association Council on Education, indicating the national core of functions and duties presently legally performed in all provinces and territories and outlining any additional duties which hygienists may be licensed to perform in a particular province or territory. This information will also appear in the C.D.H.A. Journal.
17. Provincial directors were requested to solicit information on non-traditional dental hygiene roles and submit this information to the C.D.H.A. Journal.
18. The Executive Council is to draft a proposal on the rationale and terms of reference for a C.D.H.A. Fund-raising officer or committee.
19. Guidelines with respect to corporate funding and related C.D.H.A. involvement are to be developed.
20. All provincial, convention, and other related handbooks are to be available upon request from the C.D.H.A. Executive Secretary as part of the Information Centre.

For those interested, the complete agenda book and minutes of this Annual Meeting are on file with members of the Executive Council, Provincial Directors, and C.D.H.A. Committee Chairmen.

President's Message

Isn't it terrific to enter a gathering of fellow dental hygienists and feel that unspoken bond of unity! There is no tension, no sullen faces, no grumbling, and no complaining — just hygienists reflecting on the one thing they have in common, their profession. This atmosphere is one of love!

We have all heard about loving our fellowman, and yet, in many instances, we find many who have difficulty appreciating the good aspects of their fellow dental hygienists within their own employment situation or their association. This is what leads to many of our biggest problems — lack of communication, apathy, dissension, antipathy, job dissatisfaction, and so on.

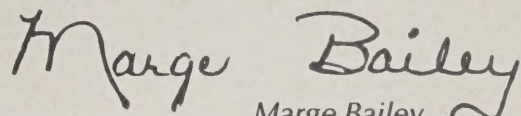
What, then, is this "elusive" thing called "love"? Webster's Seventh New Collegiate Dictionary defines love as "unselfish concerns that freely accepts another in loyalty and seeks his good; brotherly concern for others". An excellent description of love is found in the Revised Standard Version of the Bible: "Love is patient and kind; love is not jealous or boastful; it is not arrogant or rude. Love does not insist on its own way; it is not irritable or resentful; it does not rejoice at wrong but rejoices in the right. Love bears all things, hopes all things, endures all things." (1 Cor. 13:4-7) Isn't that powerful? No wonder the song writer proclaimed, "What the world needs now is love, sweet love!"

I do not believe that this restricts us from admonishing, directing or correcting those hygienists who have gone astray in areas where our expertise lies, but I do believe that this criticism and direction must be delivered positively or in love. Many people have attempted to fulfill positions within our associations, have struggled to meet standards, and have been "emphatically squelched" by someone in authority who has rebuked their efforts. This has happened to me! I know the feelings involved — anger, self-condemnation, despair, and frustration. This was when I realized the necessity of "learning to walk in love," and I would like each and every one of you to give careful thought to

"... leading a life worthy of the calling to which you have been called with all lowliness and meekness, with patience, forbearing one another in love." (EPH 4:1-2)

During the next months of my presidency, I will use this passage as a guide for my actions and hope that, in return, I will promote the atmosphere of

friendship, caring, and love within all levels of our Association.



Marge Bailey
1980 CDHA President

Convention '80: Final Report

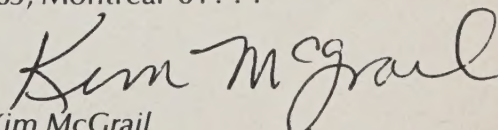
Final reports are being written and approved, budgets balanced, bank accounts closed and thank you notes sent as convention 1980 comes to a close. I want to extend a big "Thank You" to you all for coming to Nova Scotia and giving us the opportunity to share our "down east" hospitality.

Planning and organizing a national convention has been a real experience. The amount of time, planning, thinking, writing, worrying, and doing is incredible. It was all worth it though to see events happen . . . just as planned!

From the Board meetings at the Holiday Inn, hospitality suite 1403, registration, opening ceremonies, crafts, Dr. Esther Wilkins, exhibitors, clinics, scientific sessions, workshops, President's luncheon at the Chateau Halifax, Lobster Fun Night for 1800 people at the Metro Centre, President's reception poolside at the Citadel Inn to the Beef'n Beer at the Arts Centre, we had a great time interfacing with other hygienists and fellow team members.

My sincere thanks to the committee chairpersons, the C.D.A. convention planning committee, and to all the registrants for coming. Hopefully everyone "learned" and "relaxed" enough that they will want to return to Halifax for another national convention. We had a great time being hosts and hopefully we won't have to wait as long to welcome you all back to Canada's Ocean Playground.

Until then, it's off to Calgary in '81, Toronto '82, Vancouver '83, Montreal '84 . . .



Kim McGrail
1980 C.D.H.A. Convention Chairperson

Convention



Dale Scanlan, left, Cara Tax, Jane Rogers



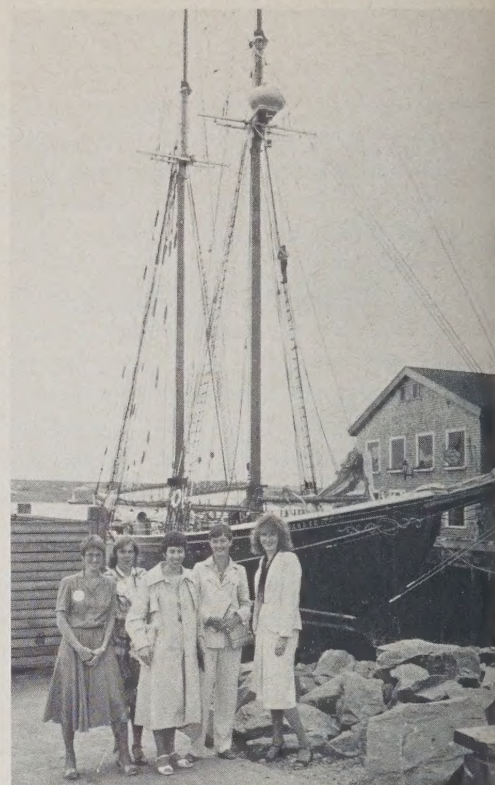
Instrument sharpening workshop



Leadership skills workshop



Participants at the Scientific Session



Sightseeing at the Bluenose II



Marg Bailey accepts gavel

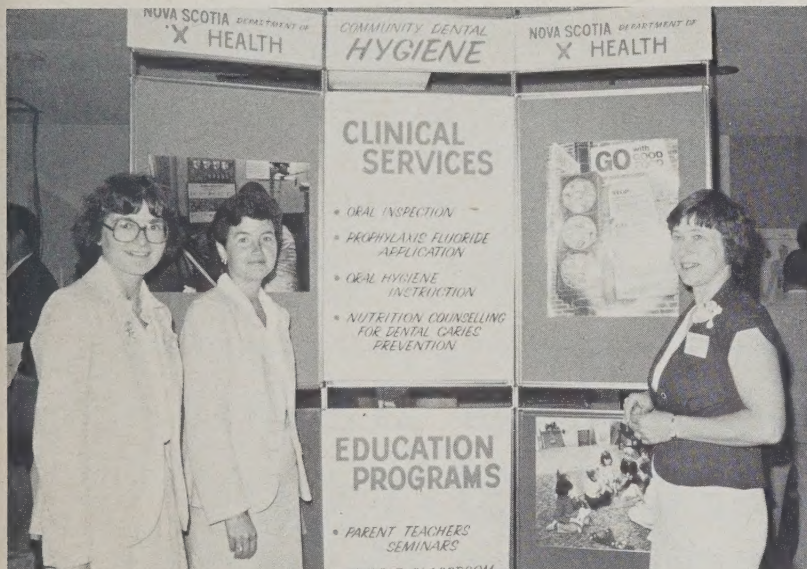


Board meeting

Highlights



Board members exchange ideas



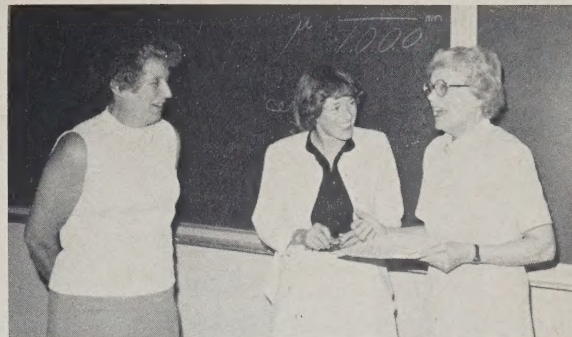
Gail Colbert, left, Brenda Ziemer, Alice Hartlen



Life members, Marjorie Dimitri, left, Ailsa Wood, far right



President Marg addresses the Board



Keynote speaker, Dr. E. Wilkins



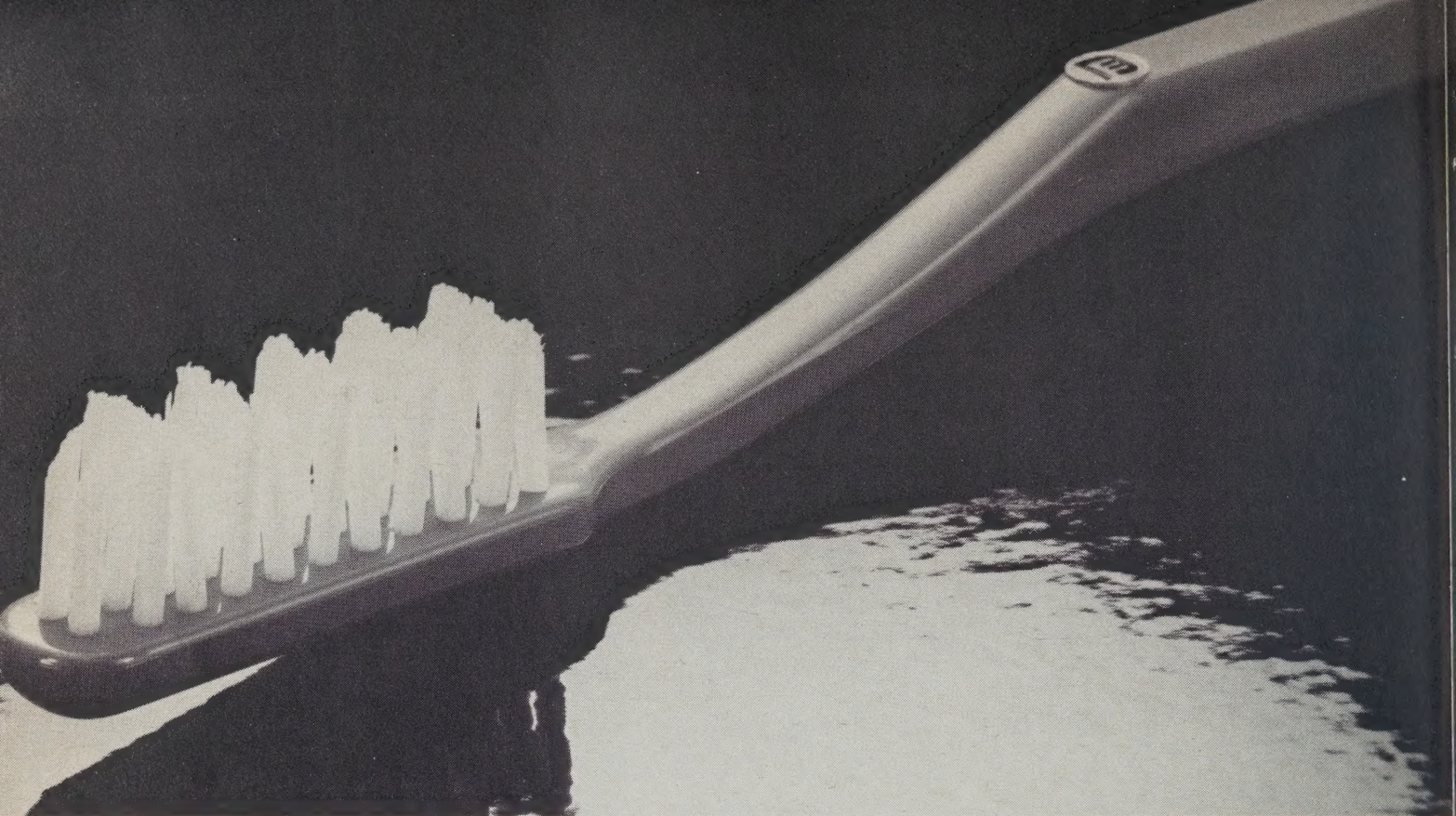
Past-pres., Diane Girardin, extends her closing remarks at the President's Luncheon



Convention chairman, Kim McGrail, thanks her committee members



Making plans at leadership workshop



Four recent studies* into relative toothbrush efficacy have proven the same thing. Jordan brushes best.

The Jordan V Soft. The Jordan V-tufted soft-bristle toothbrush was found to be the most efficient of all brushes tested in terms of plaque removal, particularly in interproximal margins.

V-Tufted Brushes. V-tufted toothbrushes were found to

remove plaque more effectively than straight-cut multitufted toothbrush designs.

Soft Bristles. Soft-bristle brushes remove plaque better than firmer textures, particularly when vertical brushing motions are used.

Time Spent Brushing. Not surprisingly, plaque removal was found to increase with time spent brushing.

Brushing Pressure. Also confirmed was that plaque removal is significantly enhanced with increased pressure of brushing.

Jordan

**Designed to reach
where other brushes can't.**

*Yankell, S.L., U Pa Sch Dent Med, Phila, Penn IADR Journal of Dental Research, Jan 79, Vol. 58, P. 239, Abstr 585

Nygaard-Østby, P., et al, Jordan as Oslo, Norway; U Pa Sch Dent Med, Phila, Penn.
Bergenholtz, A., Dept Periodont, U Umea, Umea, Sweden
Yankell, S.L. et al, U Pa Sch Dent Med, Phila, Penn.

FOR FURTHER INFORMATION, OR TO ORDER PROFESSIONAL SUPPLIES, WRITE TO: "THE JORDAN TOOTHBRUSH", C/O FRANK W. HORNER INC., P.O. BOX 959, STATION "A", MONTREAL, QUEBEC H3C 2W6, OR TELEPHONE (COLLECT) 514-731-3931.

HORNER
Montreal Canada

The Federal Dental Therapist

Keith W. Davey, D.D.S., M.Sc.D., F.R.C.D.(C)

Dr. Davey is the director of the School of Dental Therapy in Fort Smith, N.W.T.

SCHOOL OF DENTAL THERAPY

The School of Dental Therapy was established by the Medical Services Branch of the Department of National Health and Welfare for very specific purposes. The Canadian Government is responsible for health care of approximately 300,000 people living in the Territories and on reserve or crown lands. Many, particularly residing close to urban areas, receive dental care. The receptive population on which the dental therapist programme focuses is estimated to be about 120,000 - 130,000 native people, most of whom live in remote and isolated areas. The dental therapist concept was designed to meet a demand and provide primary dental care to this specific group of people. This continues to be the sole objective for this programme.

The dental therapy concept is a system which embraces two components. One is to train dental therapists and the other is to ensure that graduates operate as trained and to the standards established during their training. It is through a contractual arrangement between the Canadian Government and the University of Toronto that the professional input for training is obtained and a quality service maintained. Staff of the School of Dental Therapy monitor the service component of the programme to ensure that professional standards are upheld for these specific procedures that dental therapists are trained to carry out.

PROGRAMME STRUCTURE

Problems of transportation, communication and isolation were factors to be faced when the dental therapist concept was forged. Professional control, nurtured in an attitude of respect between the dental therapists and their supervising dentists, was essential to ensure that a quality service was delivered effectively and economically to the specified communities. The total concept was developed to provide not only treatment but also an organized dental preventive programme.

Problem-solving begins at the School of Dental Therapy, where virtually all teaching is carried out, by qualified dentists and the professional staff ratio is one instructor to every five students. The duties therapists are trained to provide are carefully delineated and strict standardization established as to what dental procedures are performed, how they are to be carried out, and to what standard. The standardization theme prevails throughout the training programme and is adhered to after graduation with the School's staff assisting the government dentists in monitoring the professional execution of the service in the field. Dental therapists are not trained to examine or diagnose a dental condition. This is the responsibility of the supervising dentist who may be a staff dentist from the School, a government dental officer or a private practitioner who agrees to accept the standards and criteria of the concept. Dental

therapists are expected to carry out the instructions laid down for them by the examining dentist in a written treatment plan which may be carried out in the absence of the dentist. Procedures beyond the expertise of the therapist are either completed by the examining dentist or referred to the private practitioner.

Portable equipment has been designed and standardized for all dental therapists, and the School of Dental Therapy is also the supply depot for all instruments for graduates. The equipment and instrumentation used during training is identical to that used in the field programme enabling clinics to be totally transportable to remote regions.

The administration of the field clinics, the organization of the preventive programme in each community, and the documentation of records in this national programme is a model of the training format. Graduates are expected to spend at least 20% of their time in an active preventive and recall programme. Their work productivity is accurately logged and computed to ensure an effective service.

PROFILE OF GRADUATES

The training course has been designed to graduate up to ten students a year and 63 have graduated in the first seven classes, two-thirds of which are female. Forty-four graduates are still working for Medical Services. The programme has been designed to encour-

CROSS CULTURAL PROFILE — DENTAL THERAPY CONCEPT — OCTOBER 1980

(n = 95)	Graduates and Students		
	Totals	Native	Other
Graduates 1974 - 1980	63	17 (27%)	46
Students II Yr.	13	7	6
Students I Yr.*	19	9 (50%)	10
Totals (n)	95	33 (35%)	62

* 6 students have already withdrawn from course and are not included in charts. 5 were native, one of which failed to show. Most of remainder appear to have potential to succeed.

# Graduates	Graduates Working October 1980		
	Total	Native	Other
63	44 (70%)	14 (32%)**	30 (68%)

**82% of natives still working

65% of non-natives still working

17% better survival rate for native people than for non-native people.

Recruitment Distribution (n = 95) Grads and Students			
Location	Total	Native	
N.W.T.	21	6	West 82%
Y.T.	19	4	
B.C.	18	9	
Prairies	20	8	
Ont. Que. Maritimes	12 5	3 3	East 18%
Total	95	33	

age northern and native students or those applicants particularly interested in working on reserves or in isolated communities. As of now, 32% of working therapists are native people, whereas about 50% of those presently in training are native. This reflects a steady increase of native people in the development of this concept. The basic programme is two years of intensive training and only about 50% of the students are successful in passing into second year. However, the programme is highly tailored to the individual differences that exist in a programme that accepts students from very diverse social, cultural, educational, and economical backgrounds, and students with promise are allowed to take longer than the two years to complete the course. About one-third of the graduates are native students which presents a high profile of native people in this disciplined and demanding programme. Of the 44 dental therapists still working, 14 are native. Most of the native students come from reserves in the provinces, with only a small native representation from the Territories. It is expected that a relocation of the School will encourage even more native people into this programme and hopefully more from the Territorial regions.

DUTIES OF THE DENTAL THERAPIST

Dental therapists are not trained to examine or diagnose dental conditions

for patients, but when instructed by a dentist, gather patient data for the purpose of completing the dental case history record and patient charting. They expose and develop dental radiographs to assist the examining dentists in examining patients. Infiltration and mandibular nerve block local anaesthetic techniques are taught, and under the routine utilization of the rubber dam, dental therapists make cavity preparations of teeth and place silver amalgam and composite resin restorations for both adults and children. If necessary, dental restorations may be reinforced with pins and stainless steel crowns may be placed on deciduous molar teeth, particularly after performing vital pulpotomy techniques for deciduous teeth when necessary. Periodontal service is provided by charting periodontal pockets, performing supra and subgingival scaling, polishing teeth and treating periodontal emergencies according to specific guidelines. A minimum of 20% of a dental therapist's time is spent in conducting a preventive dental health programme through various means of education and by treatment involving prophylaxis application of topical fluoride solutions and the self-prophy fluoride application programme with school children. Under a standardized clinical administration programme, a referral service is maintained for the transfer of patients to the dental profession in all areas of dentistry beyond the scope of training of dental therapists.

LOCATION OF GRADUATES

All graduates become employees of the Federal Government and only treat patients who come under a Federal responsibility on reserve or crown lands. Graduates do not work in competition with dentists; in fact, even in the Northwest Territories, therapists have not been placed in the two large areas that are currently being served by private practitioners. Now, in many locations, dental therapists have increased the interest in dentistry and frequently patients, after being treated and educated by a dental therapist, seek comprehensive dental treatment which is beyond the expertise of the dental therapist. This increases the demand for dental care from dentists by patients who otherwise would not have sought professional dental treatment.

The dental therapist is not trained as a "fill in" person in a crisis situation, but is to function as a member of a team of dental therapists organized into a service delivery programme of dental treatment, education, and prevention to a specified population group.

This article was originally published in the January 1980 Newsletter of the Canadian Society of Public Health Dentists and has since been updated, October 1980.

CDHA Special Long Term Disability Program

DISABILITY!! How can we protect ourselves from loss of income when we are unable to work due to an accident or an extended illness? One way to soften the blow to our finances is to obtain income protection through a long term disability insurance plan. In this article I will outline:

1. how L.T.D. plans work
2. the CDHA plan
3. how you can arrange to apply.

DO I NEED INCOME PROTECTION?

We know from personal experience that accidents and sickness can happen to anyone, and that the financial loss due to protracted disability can produce great hardship, both to ourselves and to those that depend on us. While our income ceases, the basic requirements for food, clothing, housing, and medical attention continue.

Short term disability, while a financial inconvenience, will not produce an economic disaster. However, most of us do not have the resources to withstand months without income. Even when our home has been paid for and we enjoy a credit balance at our bank, a steady cash flow is needed to provide the necessities of life.

HOW DO L.T.D. PLANS WORK?

A multitude of Canadians who work for large companies receive disability coverage through their employer. For those of us who work in a small unit, or work for more than one employer, the onus rests directly on us to provide for ourselves.

Perhaps the most dependable way to protect ourselves from loss of income due to accidents or illness is to arrange for a long term disability plan from an insurance company. For a small percentage of annual income, a personal policy of income protection can be purchased.

Private L.T.D. plans are purchased in monthly units of protection for an annual premium. A choice can be made between, for example, \$500.00 per month or \$1,000.00 per month of protection depending on our needs. The limiting factor is based on normal monthly income stated as a percentage of before tax income.

Another decision which must be made when purchasing a private plan is when to start the coverage. The cost of the coverage is directly related to the elimination (deductible) period.

Do you need your coverage to start after two weeks of income loss, one month, or four months? A balance must be struck between cost and coverage as it relates to your own needs and ability to pay premiums.

DISABILITY COVERAGE UNDER U.I.C.

Most dental hygienists are covered under the Unemployment Insurance Commission for short term accident and sickness benefits. If you are working 20 hours or more per week, you may be entitled to benefits up to \$174.00 per week, starting after 15 days and paying for a maximum of 15 weeks. In 1981 qualifications may change to allow benefits for those working at least 15 hours per week.

THE CDHA SPONSORED L.T.D. PLAN

In response to the needs of the membership, the CDHA established their own long term disability income protection plan underwritten by Mutual of Omaha Insurance Company in 1972.

This is a voluntary plan requiring each member to complete an enrolment application, with each member qualifying on the basis of physical condition and medical history. An agent of the underwriter is made available to give personal assistance to the member in completing the application, to explain the options available, and to assist in selecting the appropriate benefit level.

The concept of "portability" is important to the plan. If the member moves from one employer to another while practising as a hygienist, she may carry her plan with her; coverage is not dependent upon the qualifications of her employer. The member may work for more than one dentist, for example, without any qualification problem.

CDHA IMPROVED PLAN — 1980

During 1979 I became involved in a study to improve the CDHA plan and to bring it into line with members' requirements for the 1980's.

Acting as consultant for the CDHA, using input from the membership and through discussions with the underwriter, improvements were introduced to upgrade maximum benefits to \$1,000.00 per month, extend the length of sickness disability payment, and lower the number of working hours needed to qualify for coverage. These improvements were incorporated in a new plan for members only and became available in the spring of 1980.

During the 1980 Annual Meeting in Halifax, the Board of Directors reviewed the new plan in a session attended by Dave MacIntosh, Account Executive of Mutual of Omaha, and myself. The principal area of concern for the Board was the exclusion,

We've come a long way together



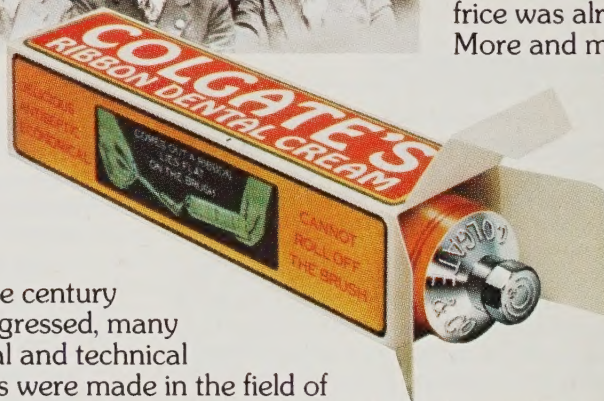
If you were practising dentistry 100 years ago, you probably had another trade as well—anything from blacksmith to travelling salesman. Because you couldn't make a living just as a dentist.

But dentistry was changing; and if you were serious about your work you were beginning to recognize the merits of preventive dentistry...which meant teaching the public that dentistry was more than "pulling the tooth that hurts". It was about this time that the Colgate company introduced Colgate toothpaste.

As people learned that keeping teeth healthy required day-to-day care, they learned to care for them with Colgate.



By the turn of the century most dentists were no longer common tradesmen, but educated professionals; and the Canadian Dental Association was founded so they could share their skill, their knowledge and their concern for the integrity of the profession. Although more and more toothpastes were now being introduced, Colgate's reputation as an effective dentifrice was already well-established. More and more dentists were recommending Colgate to their patients.



As the century progressed, many biological and technical advances were made in the field of dentistry, one of the most significant of which was the increasing use of fluoride to reduce the incidence of cavities. The first fluorides to be used by dentists were simple in composition: sodium fluoride and stannous fluoride. But the Colgate company was developing its own improved fluoride, MFP (sodium monofluorophosphate). Research showed that this fluoride reacts with the tooth enamel to form fluorapatite*, which makes the tooth more resistant to decay. Tests also showed that staining of teeth, which can be a problem with stannous fluoride, isn't a problem with MFP. Reformulated Colgate with MFP was so effective that it was one of the first toothpastes to receive official recognition from the Canadian Dental Association†. And Colgate** with MFP is still one of the most effective toothpastes in the fight against cavities today.



*Ericsson, Y., The mechanism of the monofluorophosphate action on hydroxy apatite and dental enamel, Acta Odont, Scand., 21, 341-358 (1963).

† Colgate Toothpaste contains sodium monofluorophosphate, which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care.



under the plan, of benefits for complications of pregnancy. Since that meeting this concern was outlined to the underwriters at length, and I am pleased to report that Mutual of Omaha has lifted this restriction. To the best of my knowledge, the CDHA is the first primarily female association in Canada with a voluntary disability plan to have coverage for complications of pregnancy.

HOW DO I APPLY FOR THE NEW CDHA PLAN?

Hygienists who presently have coverage under the original plan may retain their policy. However, because the new plan is

far superior, I would urge those members who obtained coverage prior to the spring of 1980, to apply for it.

Members with no coverage are recommended to explore the new plan and may obtain further information by contacting a Mutual of Omaha office for a personal consultation, or you may write to me in care of this journal.

I would be pleased to respond to your questions about disability insurance. Any inquiries on this subject would be welcomed and should be sent to me in care of this journal.

Ronald A. Berry, F.I.I.C.
CDHA Insurance Consultant

ABSTRACTS

ANTIBIOTICS IN THE CONTROL OF PERIODONTAL DISEASE

In two clinical studies, spiramycin was of definite benefit in the management of advanced periodontal disease, as measured by a reduction in clinical symptoms. Only minor effects were noted when the drug was used in the treatment of gingivitis.

Each study was a double-blind investigation in which spiramycin was compared with erythromycin and a placebo. In the first study, 48 adults with varying degrees of periodontal disease were randomly assigned to treatment and control groups. Assessments of gingival index, plaque height, pocket depth, crevicular fluid volume, and wet plaque weight were made. During the four-week clinical trial, the patients followed their usual oral hygiene practices. The medication was administered systemically for five days, starting at the conclusion of week two.

Spiramycin significantly reduced the scores for the five parameters recorded. When comparisons were made, the greatest record effect with spiramycin treatment was found in patients with advanced periodontal disease. The indication of this trend favoring spiramycin led to an extension of the trial, in which only patients with advanced periodontal lesions participated.

There were 54 adults in the second study. The same parameters used in the first study were measured during the same time period. Spiramycin again was responsible for the greatest reduction in the recorded scores. For example, average pocket depth was decreased by approximately 30%, whereas erythromycin produced a reduction of 15%. [Mills, W.H.; Thompson, G.W.; and Beagrie, G.S. Division of Clinical

Sciences, Faculty of Dentistry, University of Toronto, Toronto, Ontario, Canada. Clinical evaluation of spiramycin and erythromycin in control of periodontal disease. *J. Clin Periodontol* 6(5):308-316, 1979].

RELATIONSHIP BETWEEN DENTAL KNOWLEDGE AND ORAL HYGIENE

There are two contrasting models of health education. The assumption for the first is that people will change their behaviour when no longer ignorant of the facts about health and disease; and the results of this study cast doubts on this approach. The other model favors persuasive rather than informative approaches. Individuals should be motivated to act on the basis of a desired goal whose attainment the individual sees as being facilitated by that behaviour. This study was performed to assess whether knowledge about dental health was related to dental behavior in a group of patients who had attended a clinic for periodontal care.

Recall patients were asked to complete a questionnaire; the first part assessed attitudes and beliefs and the second part assessed dental knowledge and reported behavior. Approximately 80% of the patients had strong positive attitudes about their oral health. The patients' knowledge about dental health was also good; half had diagnosed their own condition, all knew what treatment they had had for their condition, and all but one knew the proper method of cleaning teeth.

Patients were then separated into either two or five groups according to their Gingival Index (GI) scores: two groups were formed by separating the sample at the 20th percentile of the GI;

and five were formed by grouping GI at each 20th percentile.

Positive attitudes toward oral health were not significantly associated with GI groupings. There were not significantly more patients in the lower GI groups than in the higher groups who had been instructed in the use of various oral cleaning aids. Nor were there differences in the frequencies of those who used the aids. Correct knowledge of the signs of gingival disease did not affect the GI scores, nor did correct knowledge of the causes of gingival disease.

The attitude of the majority of patients was positive. Nevertheless, no significant relationship was found between attitudes and gingival health. The patients were insufficiently motivated to use the oral cleaning aids which they had been instructed to use, although they did not find the methods difficult. It is apparent that the health education model used by the hygienists may be at fault.

The patients in their study had a fatalistic attitude toward dental disease; only 26 thought they had a good chance of keeping their remaining teeth for their lifetime, and 126 were worried about losing their remaining teeth as they became older. Unless these expectations are altered by the health educator, the instructions will not be internalized and good habits will not become established. [Rayant, Garry A. Royal Dental Hospital, University of London, London. Relationship between dental knowledge and tooth cleaning behavior. *Community Dental Oral Epidemiol* 7(4):191-194, 1979].

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PLAN TO ATTEND!

The 18th Annual
Canadian Dental Hygienists'
Association Convention and
Scientific Program
to be held in Calgary, Alberta
Aug. 30th to Sept. 2nd, 1981
Hosted by the Southern
Alberta Dental Hygienists'
Society



DENTAL HEALTH BUTTONS

The time to order dental health buttons is upon us once again. Order yours now to promote Dental Health Month, April 1981 and use as reminders of good dental health all year round.

PLEASE NOTE: Order in lots of 100 only. Orders received after March 15th may not be delivered in time for Dental Health Week.

A PROJECT OF The Canadian Dental Hygienists' Association
L'association Canadienne des Hygienistes Dentaires



Thank you for
your support.

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Remittance must accompany order, payable to CANADIAN DENTAL HYGIENISTS' ASSOCIATION.

AMENDMENT TO THE C.D.H.A. BY-LAWS

Members: Please remove this sheet and file it with your personal copy of the constitution.

Be it resolved that the following changes to the C.D.H.A. By-Laws be approved as amended.

The words in italics are those to be added, deleted, or amended. The appropriate action is indicated by each section.

Chapter II Finances and Dues.

Section 6. Appropriation of Funds

ADDITION — Any recommendation proposing an appropriation of funds of this Association not included in the annual budget, *exceeding \$50.00* shall be referred to the Board of Directors for approval.

Chapter IV Board of Directors.

Section 9. Duties

AMEND — C. To ensure the position of editor is filled at all times.

Chapter VIII Appointive Officers

DELETE — Section 1. Archivist

The archivist's duties shall be:

A. *To manage current files no longer required in the files of officers and committee chairmen of this Association.*

B. *To be custodian of all documents and records of this Association that are not of a current nature.*

ADDITION — Section 1. Bookkeeper

The Bookkeeper assists the Treasurer in serving as custodian of all monies of this Association, and keeps full and accurate

records of all disbursements and receipts.

DELETE — Section 4. *Executive Secretary*
The Executive Secretary shall be appointed by the Board of Directors to fulfill such duties as are designated by the Board.

The following are the amendments necessary to change the term junior member to student member. The words in italics are the amendments.

Chapter 1. Membership

Section 1. Classification

D. *Student* Members

Section 2. Qualifications

D. *Student* Member

Any student of a school of dental hygiene who is a *student* member in good standing of the constituent association of the province in which the school is located upon payment of dues shall be classified as a *student* member.

Section 6. Privileges

B. Associate, *Student*, Honorary and Allied Members

An associate, *student*, honorary or allied member in good standing shall be entitled to receive the annual certificate of membership, any official publications of the Association on payment of the applicable registration fees and enjoy all other services as are provided by the Association for the benefit of its members. These members do not have the privilege of voting or holding office, except as otherwise provided for in these BY-Laws.

Chapter II. Finances and Dues

Section 3. Membership Dues:

A. Active, Associate, *Student* and Allied Members

The dues of the active, associate, *student* and allied members shall be determined at the annual session of the Board of Directors. Annual dues are payable January 1st of each year.

The following is an addition to allow for minor word changes to occur without written notice two months prior to the Board meetings. The italicized portion is the addition.

Chapter XII. Amendments

These By-Laws and Code of Ethics may be amended by a two-thirds (2/3) affirmative vote of the members of the Board of Directors present and voting at a session. A copy of such proposed amendments shall be mailed by the Secretary to each member of the Board of Directors two (2) months prior to the session of the Board at which action upon such amendments is proposed to be taken.

Amendments involving minor word changes only (those not changing the intent of a clause) may occur following a unanimous affirmative vote of the Board of Directors present and voting at a session without the prior two months written notice necessary for other amendments.

Amendments involving minor word changes may also be enacted between sessions by a unanimous affirmative vote obtained by a mail ballot.

CALL FOR TABLE CLINICS

1981 CDHA Convention and Scientific Program

Calgary, Alberta

Aug. 30, 31, Sept. 1, 2

The 1981 CDHA Convention Committee invites members to submit topics for table clinic presentation to take place during the 1981 Convention. Deadline for submission of topics is MAY 1st, 1981. Please address your application to:

Convention Committee
c/o Molly Moore
331 - Pumphill Crescent S.W.
Calgary Alberta T2V 4M2

APPLICATION: C.D.H.A. 1981 TABLE CLINIC PRESENTATION

CLINICIAN(S) NAME(S): _____

ADDRESS: _____ PHONE: _____
office home

TITLE OR TOPIC: _____

Please provide a summary of the presentation and specify equipment and space requirements.

DIRECTORY 1980-1981

EXECUTIVE COUNCIL

- **PRESIDENT:** Margaret Bailey, Box 2228, Kindersley, Saskatchewan S0L 1S0. Res. (306-463-2397). Bus. (306-463-4661).
- **PRESIDENT-ELECT:** Pat Grant, 3 Linden Lane, Halifax, Nova Scotia B3R 1N1. Res. (902-477-9876).
- **SECRETARY:** Mary Anne Wailing, Box 221, Young, Saskatchewan S0K 4Y0. Res. (306-259-2024). Bus. (306-664-6372).
- **TREASURER:** Linda Wiens, 719-3rd Street East, Saskatoon, Saskatchewan S7H 1M4. Res. (306-242-6965). Bus. (306-652-0120).
- **IMMEDIATE PAST PRESIDENT:** Diane Girardin, Box 22, La Salle, Manitoba R0G 1B0. Res. (204-736-4066). Bus. (204-233-7726).

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- **BRITISH COLUMBIA:** Barbara Hewton, 2709 Marine Drive, West Vancouver, B.C. V7V 1L7 (604-926-2180); Evelyn McNee, #311 - 1385 Draycott Road, North Vancouver, B.C. V7J 3K9 (604-987-2821); Diane Eade, 10500 Springwood Cres., Richmond, B.C. V7E 1X6. (604-274-7392).
- **ALBERTA:** Laura Mowat, 11424-161 Avenue, Edmonton, Alberta T5X 2L1. (403-456-0977); Winnifred MacDonald, 72 Colleen Cres. S.W., Calgary, Alta. T2V 2R3 (403-253-6178).
- **SASKATCHEWAN:** Barbara Ferris, 5107-222 Fairmont Drive, Saskatoon, Saskatchewan S7M 4P5. (306-382-3348).
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- L0H 1S0. (416-649-2056); Ailsa Wood, 505-160 Balmoral Avenue, Toronto, Ontario M4V 1J7. (416-923-1669); Rosemary Arsenault, 92-B McDougall Rd., Waterloo, Ontario N2L 5C5. (519-884-4216); Jasmine Holetich, 1871 King St. East, Hamilton, Ontario. L8V 2P3 (416-549-5048); Linda Perron, 180 London St. South, Hamilton, Ont. L8K 2G9 (416-544-2409).
- **QUEBEC:** Lorraine Brouillard, C.P. 36, Succursale Jean-Talon, Montreal, P.Q. H1S 2Z1 (514-352-6245).
- **NEW BRUNSWICK:** Jane Cummings, 487 Westmoreland St., Fredericton, N.B. E3B 3M8 (506-455-4087).
- **NOVA SCOTIA:** Peggy Larder, 6150 Regina Terrace, Halifax, N.S. R3H 1N5 (902-329-4166).
- **PRINCE EDWARD ISLAND:** Jean MacLean, 6 Newland Crescent, Charlottetown, P.E.I. C1A 4H5 (902-894-3294).
- **NEWFOUNDLAND:** Lois Bowden, 189 LeMarchant Rd., St. John's, Newfoundland A1C 2H5 (709-579-3259).

SPECIAL COMMITTEE CHAIRMEN

- **CONTINUING EDUCATION:** Marnie Forgay, 780 Bannatyne Ave., Winnipeg, Manitoba R3E 0W3 (204-786-3683).
- **EDUCATION:** Margaret Miller, 340 Overdale St., Winnipeg, Manitoba R3J 2G4. (204-889-4890).
- **FINANCE:** Linda Wiens, 719-3rd Street East, Saskatoon, Saskatchewan S7H 1M4. (306-242-6965).
- **STUDENT MEMBERSHIP:** Cara Tax, B-652 Cavalier Drive, Winnipeg, Manitoba R2Y 1C1. (204-889-6372).

APPOINTIVE OFFICERS

- **EXECUTIVE SECRETARY:** Judy Dickey, 46 James St., Aylmer, Quebec J9H 4S6. (819-684-9102).
- **EDITOR:** Stephanie Nagle, 2221 Victoria Ave., Windsor, Ontario N8X 1R2. (519-254-6224).

- **BOOKKEEPER:** Ailsa Wood, 505-160 Balmoral Ave., Toronto, Ontario M4V 1J7. (416-923-1669).

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- **SPEAKER FOR THE BOARD:** Ms. Joanne Clovis, #1-14310-80 Street, Edmonton, Alberta T5C 1L6. (403-476-6596).
- **CONVENTION CHAIRMAN:** 1981: Molly Moore, 331 Pumphill Crescent, Calgary, Alberta T2V 4M2 (403-259-6031).
- **A.C.F.D. DENTAL HYGIENE SECTION:** Carol Worobey, 516 Oakenwald Avenue, Winnipeg, Man. R3T 1M2 (204-453-3825).
- **DENTAL AUXILIARY LIAISON OFFICER:** Dianne Bryant, 3338 Victoria Ave., Regina, Saskatchewan S4T 1L6. (306-569-1603).
- **INTERNATIONAL LIAISON CHAIRMAN:** Sharon French, 13 Hobbs St., Nepean, Ontario K2H 6W8. (613-820-1196).
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- **CDA COUNCIL ON HEALTH CARE:** Kate MacDonald, 3914 Gottinger St., Halifax, N.S. B3K 3G7. (902-445-8868).
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- **CSA TECHNICAL COMMITTEE ON DENTISTRY:** Anne Bosy, 1529 Ballyclare Drive, Mississauga, Ontario L5C 1J4 (416-270-4019).
- **OFFICER OF CDHA ORGANIZATION AND PROCEDURES:** Marjorie Dimitri, 1606 Ayleslynn Drive, Vancouver, B.C. V7J 2T3. (604-987-7392).

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- N.S.: Sandra Burrell, 6281 Duncan St., Halifax, N.S. B3H 2Y8 (902-429-1888).
- P.E.I.: Pat Stewart, Travellers Rest, Summerside, P.E.I. (902-436-2709).
- Nfld.: Lois Bowden, 189 LeMarchant Rd., St. John's Nfld. A1C 2H5 (709-579-3259).

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- CHAIRMAN: First Vice-President.
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- Alta.: Marg Suss, 306-9925 91 Ave., Edmonton, Alta. T6E 2T7 (403-433-5332).
- Sask.: Joan Foster, 345 Laurier Dr., Swift Current, Sask. S9H 1L3 (306-773-8754).
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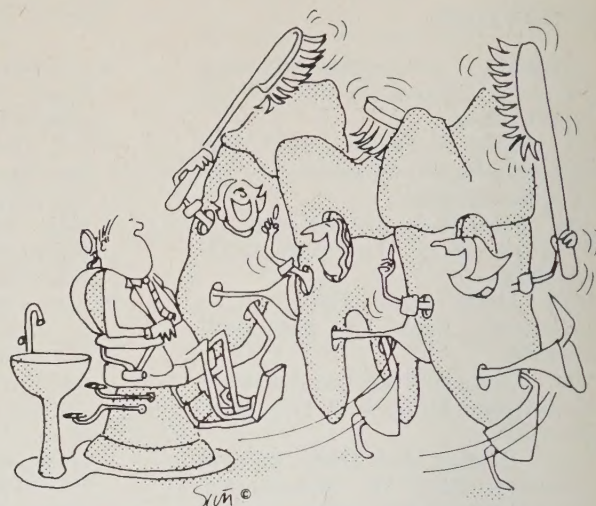
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ON DENTAL HYGIENE

VENUE BRIGHTON

International demand for the exchange of scientific knowledge has grown during the last decade within the dental hygiene profession. Those of us who have attended previous symposia will agree that the social and cultural exchange which occurs leads to a greater understanding of the problems facing each country in its efforts to achieve dental health.

The Organizing Committee for the 8th International Symposium on Dental Hygiene has chosen the multipurpose Brighton Centre as the venue for the 8th International Symposium on Dental Hygiene. The Centre has the largest and most flexible auditorium in the UK. This venue will accommodate under one roof the conference plenary sessions, the associated exhibition and refreshment areas.

The Grand Hotel, situated next to the Brighton Centre, has been chosen as Headquarter Hotel. You will find this an elegant hotel with a fine standard of food and service. All rooms are double glazed for quiet sleep and the hotel overlooks the sea. Some guests may wish to stay at the Metropole hotel, nearby, with its splendid health club.

Situated on the South Coast of England, less than an hour from the centre of London, Brighton is an international conference town with all the attractions you would expect from a cosmopolitan venue. Originally a fishing village, Brighton was made popular in the 18th Century by the Prince Regent, (late George IV) who made his home in the fabulous Royal Pavilion.

You will see the elegance of Regency Architecture, shop for antiques in the famous Lanes and in contrast nearby you will find the best modern shopping facilities.

Brighton has evolved as a truly international meeting place and will extend a warm welcome to you all.

*Ann Round,
Chairman — Organizing Committee*

"THE WAY TO DENTAL HEALTH"

The Scientific Programme for the Eighth International Symposium on Dental Hygiene intends to combine the two major paths that lead to dental health in the community, namely education and preventive dental treatment.

Invited speakers will provide information on the most recent developments affecting the factors involved in dental disease. There will also be speakers on the use of interpersonal skills and mass communication to prevent dental disease. Research has shown the need to consider both educational and clinical approaches to achieve optimal oral health in the community. It is hoped that the panel discussion will further integrate these

approaches to stimulate a fresh look at the present day dental health practices.

The programme will provide a forum for discussion and will be of interest to Dental Hygienists, Dental Surgeons, Dental Therapists, Dental Educationalists, Dental Surgery Assistants, Teachers, Health Education Officers, Health Visitors, Nursery Nurses, Community Education Workers and those involved in behavioural and social sciences. There will be opportunity for free paper presentations on a local or national basis. Two working parties are being planned to discuss dental health education and working relationships—Dental Hygienists/Dental Surgeons. The findings will be reported at the Closing Session.

*Susan Bell,
Chairman of Scientific Committee*

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